



# New Jersey Fall 2022 Start Strong Technical Brief

*English Language Arts and Mathematics*



# Table of Contents

<b>List of Figures</b> .....	<b>xvii</b>
<b>Start Strong Assessments</b> .....	<b>22</b>
Purpose of the Start Strong Assessments .....	23
Purpose of this Document .....	23
<b>Assessment Development Processes</b> .....	<b>24</b>
<i>Test Form Development Cycle</i> .....	24
<i>Statistical Considerations</i> .....	26
<b>Assessment Administration</b> .....	<b>31</b>
Registration .....	31
<i>Available Accommodations</i> .....	31
Test Accessibility Features and Accommodations .....	31
<i>Accessibility Features</i> .....	31
<i>Accommodations</i> .....	32
<i>Accommodated test form development</i> .....	33
<i>Accommodated test form equivalence</i> .....	33
Setup.....	34
<i>District Test Coordinator Training</i> .....	34
Administration .....	34
<i>Test Administration Integrity</i> .....	34
<i>Start Strong Administration Agreement</i> .....	34
<i>Testing Irregularities</i> .....	35
Scores and Score Reports .....	36
<i>Scores</i> .....	36
<i>Support Level</i> .....	36
<i>Score Reports</i> .....	38



Scoring .....	38
Machine-Scored Items .....	38
Adjudication.....	38
Reporting.....	39
Student-Level Reports.....	39
Classroom-, School-, District-Level Reports .....	40
<b>Operational Analyses.....</b>	<b>40</b>
Overview of Testing Population .....	40
<i>Rules for Inclusion of Students in Analyses.....</i>	<i>40</i>
<i>Test Takers by Course/Grade and Mode.....</i>	<i>41</i>
<i>Population Demographics.....</i>	<i>43</i>
Item-Level Summary Statistics .....	43
<i>Classical Test Theory (CTT) Statistics .....</i>	<i>43</i>
<i>CTT Results .....</i>	<i>44</i>
Differential Item Functioning .....	45
Item Response Theory (IRT) Statistics.....	47
<i>IRT Data Preparation .....</i>	<i>47</i>
<i>Description of Calibration Process.....</i>	<i>48</i>
<i>IRT Item Exclusion Rules.....</i>	<i>48</i>
<i>IRT Results.....</i>	<i>48</i>
<i>Test-Level Summary Statistics .....</i>	<i>49</i>
<i>Test Administration Time.....</i>	<i>49</i>
<i>Test Scores and Classifications.....</i>	<i>51</i>
<i>Score Distributions .....</i>	<i>51</i>
<i>Score Summary Statistics (All and by Demographic Group).....</i>	<i>51</i>
<i>Support Classification Distributions (All and by Demographic Group).....</i>	<i>52</i>
Reliability.....	53



<i>Reliability</i> .....	53
<i>Raw Score Reliability Estimation</i> .....	54
<i>Reliability Results for Subgroups of Interest</i> .....	54
<i>Reliability of Classification</i> .....	56
<b>References</b> .....	<b>58</b>
<b>Appendix A. Test Blueprints</b> .....	<b>60</b>
ELA .....	60
Math .....	62
<b>Appendix B. IRT Curves</b> .....	<b>73</b>
ELA .....	73
Math .....	83
<b>Appendix C. Valid Assessments</b> .....	<b>96</b>
ELA .....	97
Math .....	98
<b>Appendix D. Population Demographics</b> .....	<b>100</b>
ELA .....	100
Math .....	105
<b>Appendix E. Classical Test Theory Results</b> .....	<b>111</b>
ELA .....	111
Math .....	115
<b>Appendix F. Differential Item Functioning Results</b> .....	<b>123</b>
ELA .....	123
Math .....	127
<b>Appendix G. IRT Calibration Results</b> .....	<b>132</b>
ELA .....	132
Math .....	139
<b>Appendix H. Score Distributions</b> .....	<b>147</b>



ELA .....	147
Math .....	161
<b>Appendix I. Score Descriptive Statistics .....</b>	<b>177</b>
ELA .....	177
Math .....	185
<b>Appendix J. Support Classifications .....</b>	<b>198</b>
ELA .....	198
Math .....	216
<b>Appendix K. Reliability .....</b>	<b>240</b>
ELA .....	240



## List of Tables

Table 1. Available Start Strong Assessments for ELA.....	22
Table 2. Available Start Strong Assessments for Mathematics.....	22
Table 3. NJSLA ELA Summative Proficiency Level Logit Cut Scores .....	29
Table 4. NJSLA Math Summative Proficiency Level Logit Cut Scores.....	30
Table 5. Start Strong ELA Overall Proficiency level Logit Cut Scores .....	37
Table 6. Start Strong Math Overall Proficiency Level Logit Cut Scores .....	37
Table 7. ELA Students by Grade .....	41
Table 8. Math Students by Grade .....	42
Table 9. Spanish-Language Math Students by Grade .....	42
Table 10. ELA04 Item Analyses .....	44
Table 11. Traditional DIF Comparison Groups .....	46
Table 12. Calibration Sample Size and Number of Items.....	47
Table 13. ELA Number of Items & Points and IRT Parameter Calibrations.....	49
Table 14. Math Number of Items & Points and IRT Parameter Correlations .....	49
Table 15. ELA Test Administration Time.....	49
Table 16. All Math Test Administration Time .....	50
Table 17. Spanish Math Administration Time.....	50
Table 18. ELA Decision Accuracy and Decision Consistency.....	57
Table 19. Math Decision Accuracy and Decision Consistency .....	57
Table 20. ELA04 Blueprint.....	60
Table 21. ELA05 Blueprint.....	60
Table 22. ELA06 Blueprint.....	60
Table 23. ELA07 Blueprint.....	60
Table 24. ELA08 Blueprint.....	61
Table 25. ELA09 Blueprint.....	61
Table 26. ELA10 Blueprint.....	61



Table 27. MAT04 Blueprint .....	62
Table 28. MAT05 Blueprint .....	63
Table 29. MAT06 Blueprint .....	65
Table 30. MAT07 Blueprint .....	66
Table 31. MAT08 Blueprint .....	68
Table 32. ALG01 Blueprint .....	69
Table 33. GEO01 Blueprint.....	70
Table 34. ALG02 Blueprint .....	72
Table 35. Form ID Key .....	96
Table 36. ELA Valid Assessments by Form ID .....	97
Table 37. Math Valid Assessments by Form ID .....	98
Table 38. ELA04 Demographics.....	100
Table 39. ELA05 Demographics.....	101
Table 40. ELA06 Demographics.....	101
Table 41. ELA07 Demographics.....	102
Table 42. ELA08 Demographics.....	102
Table 43. ELA09 Demographics.....	103
Table 44. ELA10 Demographics.....	104
Table 45. MAT04 Demographics .....	105
Table 46. MAT05 Demographics .....	105
Table 47. MAT06 Demographics .....	107
Table 48. MAT07 Demographics .....	107
Table 49. MAT08 Demographics .....	108
Table 50. ALG01 Demographics .....	109
Table 51. GEO01 Demographics.....	109
Table 52. ALG02 Demographics .....	110
Table 53. ELA04 Item Analyses .....	111



Table 54. ELA05 Item Analyses .....	111
Table 55. ELA06 Item Analyses .....	112
Table 56. ELA07 Item Analyses .....	112
Table 57. ELA08 Item Analyses .....	113
Table 58. ELA09 Item Analyses .....	114
Table 59. ELA10 Item Analyses .....	114
Table 60. MAT04 Item Analyses.....	115
Table 61. MAT05 Item Analyses.....	116
Table 62. MAT06 Item Analyses.....	117
Table 63. MAT07 Item Analyses.....	118
Table 64. MAT08 Item Analyses.....	119
Table 65. ALG01 Item Analyses.....	120
Table 66. GEO01 Item Analyses .....	121
Table 67. ALG02 Item Analyses.....	122
Table 68. ELA04 DIF Analyses .....	123
Table 69. ELA05 DIF Analyses .....	123
Table 70. ELA06 DIF Analyses .....	124
Table 71. ELA07 DIF Analyses .....	124
Table 72. ELA08 DIF Analyses .....	125
Table 73. ELA09 DIF Analyses .....	125
Table 74. ELA10 DIF Analyses .....	126
Table 75. MAT04 DIF Analyses.....	127
Table 76. MAT05 DIF Analyses.....	127
Table 77. MAT06 DIF Analyses.....	128
Table 78. MAT07 DIF Analyses.....	128
Table 79. MAT08 DIF Analyses.....	129
Table 80. ALG01 DIF Analyses.....	129





Table 81. GEO01 DIF Analyses .....	130
Table 82. ALG02 DIF Analyses.....	131
Table 83. ELA04 Score Distribution .....	148
Table 84. ELA05 Score Distribution .....	150
Table 85. ELA07 Score Distribution .....	154
Table 86. ELA08 Score Distribution .....	156
Table 87. ELA09 Score Distribution .....	158
Table 88. ELA10 Score Distribution .....	160
Table 89. MAT04 Score Distribution.....	162
Table 90. MAT05 Score Distribution.....	164
Table 91. MAT06 Score Distribution.....	166
Table 92. MAT07 Score Distribution.....	168
Table 93. MAT08 Score Distribution.....	170
Table 94. ALG01 Score Distribution .....	172
Table 95. GEO01 Score Distribution .....	174
Table 96. ALG02 Score Distribution .....	176
Table 97. ELA04 Score Summary by Gender .....	177
Table 98. ELA04 Score Summary by Ethnicity .....	177
Table 99. ELA04 Score Summary by Economic Status.....	177
Table 100. ELA04 Score Summary by English Learner Status .....	178
Table 101. ELA04 Score Summary by Disability Status.....	178
Table 102. ELA05 Score Summary by Gender .....	178
Table 103. ELA05 Score Summary by Ethnicity.....	178
Table 104. ELA05 Score Summary by Economic Status .....	179
Table 105. ELA05 Score Summary by English Learner Status .....	179
Table 106. ELA05 Score Summary by Disability Status.....	179
Table 107. ELA06 Score Summary by Gender .....	179



Table 108. ELA06 Score Summary by Ethnicity.....	179
Table 109. ELA06 Score Summary by Economic Status .....	180
Table 110. ELA06 Score Summary by English Learner Status .....	180
Table 111. ELA06 Score Summary by Disability Status.....	180
Table 112. ELA07 Score Summary by Gender .....	180
Table 113. ELA07 Score Summary by Ethnicity.....	181
Table 114. ELA07 Score Summary by Economic Status .....	181
Table 115. ELA07 Score Summary by English Learner Status .....	181
Table 116. ELA07 Score Summary by Disability Status.....	181
Table 117. ELA08 Score Summary by Gender .....	182
Table 118. ELA08 Score Summary by Ethnicity.....	182
Table 119. ELA08 Score Summary by Economic Status .....	182
Table 120. ELA08 Score Summary by English Learner Status .....	182
Table 121. ELA08 Score Summary by Disability Status.....	183
Table 122. ELA09 Score Summary by Gender .....	183
Table 123. ELA09 Score Summary by Ethnicity.....	183
Table 124. ELA09 Score Summary by Economic Status .....	183
Table 125. ELA09 Score Summary by English Learner Status .....	184
Table 126. ELA09 Score Summary by Disability Status.....	184
Table 127. ELA10 Score Summary by Gender .....	184
Table 128. ELA10 Score Summary by Ethnicity.....	184
Table 129. ELA10 Score Summary by Economic Status .....	185
Table 130. ELA10 Score Summary by English Learner Status .....	185
Table 131. ELA10 Score Summary by Disability Status.....	185
Table 132. MAT04 Score Summary by Gender.....	185
Table 133. MAT04 Score Summary by Ethnicity .....	185
Table 134. MAT04 Score Summary by Economic Status.....	186



Table 135. MAT04 Score Summary by English Learner Status.....	186
Table 136. MAT04 Score Summary by Disability Status.....	186
Table 137. MAT04 Score Summary by Language.....	186
Table 138. MAT05 Score Summary by Gender.....	187
Table 139. MAT05 Score Summary by English Learner Status.....	187
Table 140. MAT05 Score Summary by Disability Status.....	187
Table 141. MAT05 Score Summary by Language.....	187
Table 142. MAT06 Score Summary by Gender.....	187
Table 143. MAT06 Score Summary by Ethnicity.....	189
Table 144. MAT06 Score Summary by Economic Status.....	189
Table 145. MAT06 Score Summary by English Learner Status.....	189
Table 146. MAT06 Score Summary by Disability Status.....	189
Table 147. MAT06 Score Summary by Language.....	190
Table 148. MAT07 Score Summary by Gender.....	190
Table 149. MAT07 Score Summary by Ethnicity.....	190
Table 150. MAT07 Score Summary by Economic Status.....	190
Table 151. MAT07 Score Summary by English Learner Status.....	191
Table 152. MAT07 Score Summary by Disability Status.....	191
Table 153. MAT07 Score Summary by Language.....	191
Table 154. MAT08 Score Summary by Gender.....	191
Table 155. MAT08 Score Summary by Ethnicity.....	191
Table 156. MAT08 Score Summary by Economic Status.....	192
Table 157. MAT08 Score Summary by English Learner Status.....	192
Table 158. MAT08 Score Summary by Disability Status.....	192
Table 159. MAT08 Score Summary by Language.....	192
Table 160. ALG01 Score Summary by Gender.....	193
Table 161. ALG01 Score Summary by Ethnicity.....	193



Table 162. ALG01 Score Summary by Economic Status.....	193
Table 163. ALG01 Score Summary by English Learner Status.....	193
Table 164. ALG01 Score Summary by Disability Status.....	194
Table 165. ALG01 Score Summary by Language.....	194
Table 166. GEO01 Score Summary by Gender .....	194
Table 167. GEO01 Score Summary by Ethnicity.....	194
Table 168. GEO01 Score Summary by Economic Status .....	195
Table 169. GEO01 Score Summary by English Learner Status .....	195
Table 170. GEO01 Score Summary by Disability Status.....	195
Table 171. GEO01 Score Summary by Language .....	195
Table 172. ALG02 Score Summary by Gender.....	195
Table 173. ALG02 Score Summary by Ethnicity .....	196
Table 174. ALG02 Score Summary by Economic Status.....	196
Table 175. ALG02 Score Summary by English Learner Status.....	196
Table 176. ALG02 Score Summary by Disability Status.....	196
Table 177. ALG02 Score Summary by Language.....	197
Table 178. ELA04 Support Classifications .....	198
Table 179. ELA04 Support Classifications by Gender .....	198
Table 180. ELA04 Support Classifications by Ethnicity.....	198
Table 181. ELA04 Support Classifications by Economic Status .....	199
Table 182. ELA04 Support Classifications by English Learner.....	200
Table 183. ELA04 Support Classifications by Disability .....	200
Table 184. ELA05 Support Classifications .....	200
Table 185. ELA05 Support Classifications by Gender .....	200
Table 186. ELA05 Support Classifications by Ethnicity.....	201
Table 187. ELA05 Support Classifications by Economic Status .....	202
Table 188. ELA05 Support Classifications by English Learner.....	202



Table 189. ELA05 Support Classifications by Disability .....	202
Table 190. ELA06 Support Classifications .....	203
Table 191. ELA06 Support Classifications by Gender .....	203
Table 192. ELA06 Support Classifications by Ethnicity.....	203
Table 193. ELA06 Support Classifications by Economic Status.....	204
Table 194. ELA06 Support Classifications by English Learner.....	204
Table 195. ELA06 Support Classifications by Disability .....	205
Table 196. ELA07 Support Classifications .....	205
Table 197. ELA07 Support Classifications by Gender .....	205
Table 198. ELA07 Support Classifications by Ethnicity.....	206
Table 199. ELA07 Support Classifications by Economic Status.....	207
Table 200. ELA07 Support Classifications by English Learner.....	207
Table 201. ELA07 Support Classifications by Disability .....	208
Table 202. ELA08 Support Classifications .....	208
Table 203. ELA08 Support Classifications by Gender .....	208
Table 204. ELA08 Support Classifications by Ethnicity.....	208
Table 205. ELA08 Support Classifications by Economic Status.....	209
Table 206. ELA08 Support Classifications by English Learner.....	210
Table 207. ELA08 Support Classifications by Disability .....	210
Table 208. ELA09 Support Classifications .....	211
Table 209. ELA09 Support Classifications by Gender .....	211
Table 210. ELA09 Support Classifications by Ethnicity.....	211
Table 211. ELA09 Support Classifications by Economic Status.....	212
Table 212. ELA09 Support Classifications by English Learner.....	212
Table 213. ELA09 Support Classifications by Disability .....	213
Table 214. ELA10 Support Classifications .....	213
Table 215. ELA10 Support Classifications by Gender .....	213



Table 216. ELA10 Support Classifications by Ethnicity.....	214
Table 217. ELA10 Support Classifications by Economic Status.....	215
Table 218. ELA10 Support Classifications by English Learner.....	215
Table 219. ELA10 Support Classifications by Disability .....	215
Table 220. MAT04 Support Classifications.....	216
Table 221. MAT04 Support Classifications by Gender.....	216
Table 222. MAT04 Support Classifications by Ethnicity .....	216
Table 223. MAT04 Support Classifications by Economic Status.....	217
Table 224. MAT04 Support Classifications by English Learner .....	217
Table 225. MAT04 Support Classifications by Disability .....	218
Table 226. MAT04 Support Classifications by LanguageSupport Classifications by Language.....	218
Table 227. MAT05 Support Classifications.....	218
Table 228. MAT05 Support Classifications by Gender.....	219
Table 229. MAT05 Support Classifications by Ethnicity .....	219
Table 230. MAT05 Support Classifications by Economic Status.....	220
Table 231. MAT05 Support Classifications by English Learner .....	220
Table 232. MAT05 Support Classifications by Disability .....	221
Table 233. MAT05 Support Classifications by LanguageSupport Classifications by Language.....	221
Table 234. MAT06 Support Classifications.....	221
Table 235. MAT06 Support Classifications by Gender.....	221
Table 236. MAT06 Support Classifications by Ethnicity .....	222
Table 237. MAT06 Support Classifications by Economic Status.....	223
Table 238. MAT06 Support Classifications by English Learner .....	223
Table 239. MAT04 Support Classifications by Disability .....	223
Table 240. MAT06 Support Classifications by LanguageSupport Classifications by Language.....	225



Table 241. MAT07 Support Classifications .....	225
Table 242. MAT07 Support Classifications by Gender.....	225
Table 243. MAT07 Support Classifications by Ethnicity .....	225
Table 244. MAT07 Support Classifications by Economic Status.....	227
Table 245. MAT07 Support Classifications by English Learner .....	227
Table 246. MAT07 Support Classifications by Disability .....	227
Table 247. MAT07 Support Classifications by LanguageSupport Classifications by Language.....	228
Table 248. MAT08 Support Classifications .....	228
Table 249. MAT08 Support Classifications by Gender.....	228
Table 250. MAT08 Support Classifications by Ethnicity .....	229
Table 251. MAT08 Support Classifications by Economic Status.....	230
Table 252. MAT08 Support Classifications by English Learner .....	230
Table 253. MAT08 Support Classifications by Disability .....	230
Table 254. MAT08 Support Classifications by LanguageSupport Classifications by Language.....	231
Table 255. ALG01 Support Classifications.....	231
Table 256. ALG01 Support Classifications by Gender .....	231
Table 257. ALG01 Support Classifications by Ethnicity.....	231
Table 258. ALG01 Support Classifications by Economic Status .....	232
Table 259. ALG01 Support Classifications by English Learner .....	233
Table 260. ALG01 Support Classifications by Disability .....	233
Table 261. ALG01 Support Classifications by LanguageSupport Classifications by Language.....	233
Table 262. GEO01 Support Classifications.....	234
Table 263. GEO001 Support Classifications by Gender .....	234
Table 264. GEO01 Support Classifications by Ethnicity.....	234
Table 265. GEO01 Support Classifications by Economic Status .....	235



Table 266. GEO01 Support Classifications by English Learner .....	236
Table 267. GEO01 Support Classifications by Disability .....	236
Table 268. GEO01 Support Classifications by LanguageSupport Classifications by Language.....	236
Table 269. ALG02 Support Classifications.....	237
Table 270. ALG02 Support Classifications by Gender .....	237
Table 271. ALG02 Support Classifications by Ethnicity.....	237
Table 272. ALG02 Support Classifications by Economic Status .....	238
Table 273. ALG02 Support Classifications by English Learner .....	238
Table 274. ALG02 Support Classifications by Disability .....	239
Table 275. ALG02 Support Classifications by LanguageSupport Classifications by Language.....	239
Table 276. ELA04 Demographic Reliabilities .....	240
Table 277. ELA05 Demographic Reliabilities .....	240
Table 278. ELA06 Demographic Reliabilities .....	241
Table 279. ELA07 Demographic Reliabilities .....	242
Table 280. ELA08 Demographic Reliabilities .....	242
Table 281. ELA09 Demographic Reliabilities .....	243
Table 282. ELA10 Demographic Reliabilities .....	244
Table 283. MAT04 Demographic Reliabilities.....	244
Table 284. MAT05 Demographic Reliabilities.....	245
Table 285. MAT06 Demographic Reliabilities.....	246
Table 286. MAT07 Demographic Reliabilities.....	246
Table 287. MAT08 Demographic Reliabilities.....	247
Table 288. ALG01 Demographic Reliabilities.....	248
Table 289. GEO01 Demographic Reliabilities .....	248
Table 290. ALG02 Demographic Reliabilities.....	249





## List of Figures

Figure 1. Math Grade 4 Example TCC .....	28
Figure 2. Math Grade 4 Example TIF.....	29
Figure 3. Math Grade 4 Example CSEM Curve .....	30
Figure 4. ELA04 Percent Correct Test Characteristic Curves.....	73
Figure 5. ELA04 Test Information Curves .....	73
Figure 6. ELA04 Conditional Standard Error of Measurement Curves .....	74
Figure 7. ELA05 Percent Correct Test Characteristic Curves.....	74
Figure 8. ELA05 Test Information Curves .....	75
Figure 9. ELA05 Conditional Standard Error of Measurement Curves .....	75
Figure 10. ELA06 Percent Correct Test Characteristic Curves.....	76
Figure 11. ELA06 Test Information Curves.....	76
Figure 12. ELA06 Conditional Standard Error of Measurement Curves.....	77
Figure 13. ELA07 Percent Correct Test Characteristic Curves .....	77
Figure 14. ELA07 Test Information Curves.....	78
Figure 15. ELA07 Conditional Standard Error of Measurement Curves.....	78
Figure 16. ELA08 Percent Correct Test Characteristic Curves .....	79
Figure 17. ELA08 Test Information Curves.....	79
Figure 18. ELA08 Conditional Standard Error of Measurement Curves.....	80
Figure 19. ELA09 Percent Correct Test Characteristic Curves .....	80
Figure 20. ELA09 Test Information Curves.....	81
Figure 21. ELA09 Conditional Standard Error of Measurement Curves.....	81
Figure 22. ELA10 Percent Correct Test Characteristic Curves .....	82
Figure 23. ELA10 Test Information Curves.....	82
Figure 24. ELA10 Conditional Standard Error of Measurement Curves.....	83



Figure 25. MAT04 Percent Correct Test Characteristic Curves.....	83
Figure 26. MAT04 Test Information Curves .....	84
Figure 27. MAT04 Conditional Standard Error of Measurement Curves .....	84
Figure 28. MAT05 Percent Correct Test Characteristic Curves.....	85
Figure 29. MAT05 Test Information Curves .....	85
Figure 30. MAT05 Conditional Standard Error of Measurement Curves .....	86
Figure 31. MAT06 Percent Correct Test Characteristic Curves.....	86
Figure 32. MAT06 Test Information Curves .....	87
Figure 33. MAT06 Conditional Standard Error of Measurement Curves .....	87
Figure 34. MAT07 Percent Correct Test Characteristic Curves.....	88
Figure 35. MAT07 Test Information Curves .....	88
Figure 36. MAT07 Conditional Standard Error of Measurement Curves .....	89
Figure 37. MAT08 Percent Correct Test Characteristic Curves.....	89
Figure 38. MAT08 Test Information Curves .....	90
Figure 39. MAT08 Conditional Standard Error of Measurement Curves .....	90
Figure 40. ALG01 Percent Correct Test Characteristic Curves.....	91
Figure 41. ALG01 Test Information Curves .....	91
Figure 42. ALG01 Conditional Standard Error of Measurement Curves .....	92
Figure 43. GEO01 Percent Correct Test Characteristic Curves .....	92
Figure 44. GEO01 Test Information Curves.....	93
Figure 45. GEO01 Conditional Standard Error of Measurement Curves.....	93
Figure 46. ALG02 Percent Correct Test Characteristic Curves.....	94
Figure 47. ALG02 Test Information Curves .....	94
Figure 48. ALG02 Conditional Standard Error of Measurement Curves .....	95
Figure 49. ELA04 Parameter A Comparison .....	132
Figure 50. ELA04 Parameter B Comparison.....	132
Figure 51. ELA05 Parameter A Comparison .....	133



Figure 52. ELA05 Parameter B Comparison.....	133
Figure 53. ELA06 Parameter A Comparison .....	134
Figure 54. ELA06 Parameter B Comparison.....	134
Figure 55. ELA07 Parameter A Comparison .....	135
Figure 56. ELA07 Parameter B Comparison.....	135
Figure 57. ELA08 Parameter A Comparison .....	136
Figure 58. ELA08 Parameter B Comparison.....	136
Figure 59. ELA09 Parameter A Comparison .....	137
Figure 60. ELA09 Parameter B Comparison.....	137
Figure 61. ELA10 Parameter A Comparison .....	138
Figure 62. ELA10 Parameter B Comparison.....	138
Figure 63. MAT04 Parameter A Comparison .....	139
Figure 64. MAT04 Parameter B Comparison .....	139
Figure 65. MAT05 Parameter A Comparison .....	140
Figure 66. MAT05 Parameter B Comparison .....	140
Figure 67. MAT06 Parameter A Comparison .....	141
Figure 68. MAT06 Parameter B Comparison .....	141
Figure 69. MAT07 Parameter A Comparison .....	142
Figure 70. MAT07 Parameter B Comparison .....	142
Figure 71. MAT08 Parameter A Comparison .....	143
Figure 72. MAT08 Parameter B Comparison .....	143
Figure 73. ALG01 Parameter A Comparison.....	144
Figure 74. ALG01 Parameter B Comparison .....	144
Figure 75. GEO01 Parameter A Comparison .....	145
Figure 76. GEO01 Parameter B Comparison.....	145
Figure 77. ALG02 Parameter A Comparison.....	146
Figure 78. ALG02 Parameter B Comparison.....	146



Figure 79. ELA04 Score Density Plot.....	147
Figure 80. ELA05 Score Density Plot.....	149
Figure 81. ELA06 Score Density Plot.....	151
Figure 82. ELA07 Score Density Plot.....	153
Figure 83. ELA08 Score Density Plot.....	155
Figure 84. ELA09 Score Density Plot.....	157
Figure 85. ELA10 Score Density Plot.....	159
Figure 86. MAT04 Score Density Plot .....	161
Figure 87. MAT05 Score Density Plot .....	163
Figure 88. MAT06 Score Density Plot .....	165
Figure 89. MAT07 Score Density Plot .....	167
Figure 90. MAT08 Score Density Plot .....	169
Figure 91. ALG01 Score Density Plot.....	171
Figure 92. GEO01 Score Density Plot.....	173
Figure 93. ALG02 Score Density Plot.....	175



## Introduction

The New Jersey Start Strong assessments for English language arts (ELA) and mathematics (math) provide educators and parents with an initial indication of some conceptual or skill gaps that might exist in a student’s understanding of the New Jersey Student Learning Standards (NJSLS) and the level of support students may need to inform instruction. The information provided by this assessment is a snapshot of a student’s understanding and should be used only with other supporting evidence (assignments, homework, locally administered assessments, etc.) when drawing conclusions about a student’s overall academic performance. The Start Strong assessments are composed of released items that were previously used on the New Jersey Student Learning Assessments (NJSLA).



## Start Strong Assessments

The Start Strong assessments are short assessments designed to be administered at the beginning of a school year to measure students' knowledge, skills, and abilities (KSAs) relative to the previous year's most critical standards. The Start Strong assessments are available for students in 4th through 8th grades and high school (HS).

Because the Start Strong assessments are intended for administration at the very beginning of the school year, each assessment is based on the standards from the previous grade level (or logical HS course) — the assessment for grade 4 is based on the standards for grade 3, the assessment for grade 5 is based on the standards for grade 4, and so on (see Tables 1 and 2).

Table 1. Available Start Strong Assessments for ELA

Test Code	Content of the Assessment	Fall Grade
ELA04	Grade 3	Grade 4
ELA05	Grade 4	Grade 5
ELA06	Grade 5	Grade 6
ELA07	Grade 6	Grade 7
ELA08	Grade 7	Grade 8
ELA09	Grade 8	Grade 9
ELA10	Grade 9	Grade 10

Table 2. Available Start Strong Assessments for Mathematics

Test Code	Content of the Assessment	Fall Course/Grade
MAT04	Grade 3	Grade 4
MAT05	Grade 4	Grade 5
MAT06	Grade 5	Grade 6
MAT07	Grade 6	Grade 7
MAT08	Grade 7	Grade 8
ALG01	Grade 8	Algebra I
GEO01	Grade 8	Geometry
ALG02	Algebra I	Algebra II



## **Purpose of the Start Strong Assessments**

The primary purpose of the Start Strong assessment is to provide instructional guidance to classroom teachers and school and district leaders about student needs for additional support upon returning to school and beginning grade-level instruction. The Start Strong assessments are not summative assessments of student learning following a period of instruction. The Start Strong assessments produce student-, school-, and district-level information as a standards-based complement to the resources used locally to evaluate the needs of students. To inform instruction, the assessments provide an initial indication of some conceptual or skill gaps that might exist in a student's understanding of the NJSLA and the level of support students may need. The information provided by these assessments is best used in conjunction with local formative measures to holistically understand a student's academic performance. The data should be used only with other supporting evidence (assignments, homework, locally administered assessments, etc.) when drawing conclusions about the level of academic support a student may need for the current school year.

It is important to note that the Start Strong assessments do not assess all of the learning standards on the summative assessment and therefore do not include all of the same item types, such as constructed-response items. Likewise, because the released item pool was used to create the Start Strong assessment forms, there may be examples of types of test questions that are no longer developed for the NJSLA but were deemed appropriate for the Start Strong assessments. The Start Strong assessments are not a replica of or replacement for the NJSLA.

## **Purpose of This Document**

This technical brief provides a description of the Start Strong assessments, including the development and rationale for test form designs; administration guidelines; processes used to calibrate scoring; and statistical analyses of subsequent item, form, and student performance.



## Assessment Development Processes

Assessment development is a complex process involving educators, subject matter professionals, assessment experts, and psychometricians who participate in the development of the test design and its underlying foundational documents. Passages and items must be written, reviewed and field tested prior to being used to build assessment forms. Assessment programs are monitored for quality, accessibility, and fairness for all students; and forms must be constructed, reviewed, and scored.

The following sections describe the development of Start Strong assessment forms as well as the psychometric practices used to score and monitor the quality of forms. Information on item and passage creation and review may be found in the most recent [New Meridian Technical Report Alternate Blueprint](#).

### Test Form Development Cycle

Test form construction is the process of selecting and sequencing a set of test items for administration. This is a complex, interactive task that requires both content and psychometric expertise. Due to the intended use of and expedited need for the Start Strong assessments, test form development was completed by New Meridian Corporation through a condensed yet rigorous process involving researchers, psychometricians, subject matter professionals, and assessment experts. Start Strong assessment forms comprise items released from item banks for the NJSLA. For ELA, one form was constructed for each of grades 3–9. For math, one form was constructed for each of grades 3–8 and Algebra I. Start Strong assessment forms for ELA are taken by incoming students in grades 4–10 and for math by students in grades 4–8 and Algebra I, Geometry and Algebra II.

Available items for the ELA assessments in grades 4–10 included all released reading items based on content standards for grades 3–9 with item response theory (IRT) parameter estimates that were eligible to be used on accommodated forms. To increase the number of passages from which to choose, Narrative Writing Tasks and Research Simulation Tasks were parsed into a subset of items. When multiple items met the inclusion criteria described in the Blueprint Development and Verification section below, preference was given to items with IRT parameters which exceeded minimum performance expectations.

Available items for the math assessments in grades 4–8 were limited to released items based on the grades 3–7 content standards with IRT parameter estimates that exceeded





minimum statistical performance expectations. For students entering Algebra I or Geometry, the pool of items is based on the released items from grade 8, while the pool for students entering Algebra II is based on the released Algebra I items. To maximize coverage of the most critical content standards, the content clusters of the major work (as identified in the Partnership for Assessment of Readiness for College and Careers (PARCC) Model Content Frameworks) was prioritized for inclusion at each grade, and only Task Type 1.1 and Task Type 1.2 machine-scorable items were considered. All eligible math items were cleared as having no bias/sensitivity issues.

### **Blueprint Development and Verification**

One of the primary design features that was most critical for the Start Strong assessments was to keep each assessment brief while still yielding as much information for decision-making as possible.

The blueprint development for the Start Strong assessments was informed by the PARCC Model Content Framework documents for both ELA and math. For ELA, the blueprints are based on the major claim of Reading Complex Texts using both literature and informational passages from the previous grade level as described in the *PARCC Model Content Frameworks for ELA*. For math, the blueprints are based on the major work of the previous grade level as listed in the *PARCC Model Content Frameworks for Mathematics*. The blueprints for both ELA and math were compared against Student Achievement Partners' prepublication draft of the *2020–2021 Priority Instructional Content in English Language Arts and Mathematics Document* (Student Achievement Partners, 2020). [Appendix A](#) contains the blueprints used to guide the form development process and construction of final forms.

### **Passage and/or Item Selection Process**

For ELA, the Content Lead selected the forms from the eligible passages and their associated items in accordance with the test blueprint for each grade.

The preliminary math forms were built with automated test assembly (ATA) software (xxIRT v2.1.2; Luo, 2019) in R 4.0.0 (R Core Team, 2020) prior to the Content Lead's form review. Each form was constructed to have 20 items that did not constrain the number of 1- or 2-point items. The goal was to maximize the amount (refer to the [Target Test Information Function](#) section). If there wasn't a minimum of six points per reporting group, then the Content Lead added additional items from the remaining pool to meet the reporting requirement and generate the final form.



## Statistical Considerations

This section describes several psychometric characteristics used to evaluate the Start Strong assessments and the specific targets for these characteristics that guided test form construction. Readers are referred to the most recent [New Meridian Technical Report Alternate Blueprint](#) for full documentation regarding the calculation of classical and item response theory statistics.

### Classical Test Theory (CTT) Statistics

#### Item p-value (pseudo p-value for multi-point items)

The p-value represents the proportion of students who answered each dichotomously scored item correctly and the item mean divided by the maximum obtainable points for polytomously scored, multi-point items (a pseudo p-value). Values range from 0–1. Items that are too difficult or too easy are avoided as they provide little information about students' abilities. The range for placement on a form is greater than or equal to 0.25 and less than 0.95 when possible.

#### Item-Total Correlations

Item-total correlations refer to the correlation between the item score and the total score. Possible values range between -1 and +1. The correlation will be positive when the mean test score of the students answering the item correctly is greater than the mean test score of the students answering the item incorrectly. Negative values may indicate multiple answer keys or an incorrect answer key. Discriminatory items, indicated by greater positive item-total correlations, are prioritized. Dichotomous items with biserial correlations, or polytomous items with polyserial correlations less than or equal to 0.10, are avoided when possible.

#### Differential Item Functioning (DIF)

Items that function differentially across different demographic student groups, despite matching on overall test performance, are used sparingly. Items analyzed for DIF are classified into one of three categories: A, B, or C. An “A” classification indicates no differential functioning across demographic groups, a classification of “B” indicates moderate differential functioning, and a classification of “C” indicates significant differential functioning. Plus (+) and minus (-) signs are used to indicate which group in the DIF comparison performed better than the other. Classifications of C- indicate DIF favoring the reference group (e.g., males, white students, students without disabilities [SWD], non-



English learners [EL] students) and classifications of C+ indicate DIF favoring the focal group (e.g., females, Asian students, African American students, Hispanic students, Native American students, students with disabilities, EL students). Items classified as C are avoided when possible, and no more than two C DIF items are allowed per form; preferably, if two C DIF items are included, they would not favor the same demographic group. If an item with C DIF is necessary to complete the content coverage of the test blueprint, the item must be evaluated by the Content Leads.

### **Item Response Theory (IRT) Statistics**

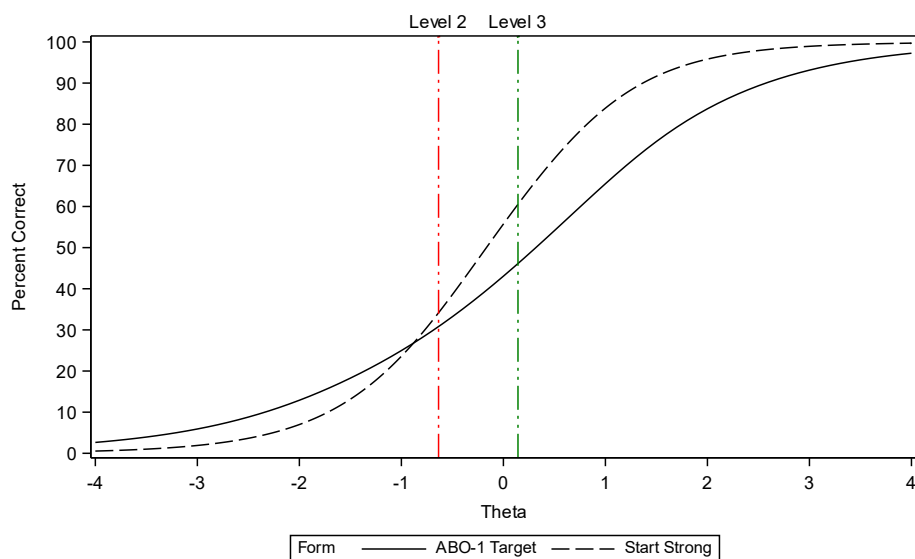
The Start Strong assessments were designed with the goal of maximizing information at a specific range of ability. The similarities and differences between the Start Strong assessment forms and New Meridian Alternative Blueprint Option (ABO) summative assessment targets can be evaluated by plotting both together. [Appendix B](#) provides the information for the assessments by content and grade. For math forms, the solid line in the figures represents the target curve for the New Meridian ABO summative assessment, whereas the dashed curve represents the Start Strong assessments. For ELA there are two reference lines representing the two ABO form targets for ELA in each grade. Two reference points — Level 2 and Level 3 — are noted by the red and green vertical lines. These reference points are discussed in the [Support Level](#) section.

### **Test Characteristic Curves (TCCs)**

The TCC represents the relationship between expected test performance and estimates of the ELA or math traits underlying test performance. The x-axis represents the set of underlying traits (referred to as Theta), and the y-axis represents expected performance on the test, which ranges from zero to the maximum possible raw score. A Percent TCC (PTCC) expresses the expected performance on the test in terms of percent correct, which ranges from 0–100. Figure 2 is an example TCC.



Figure 1. Math Grade 4 Example TCC

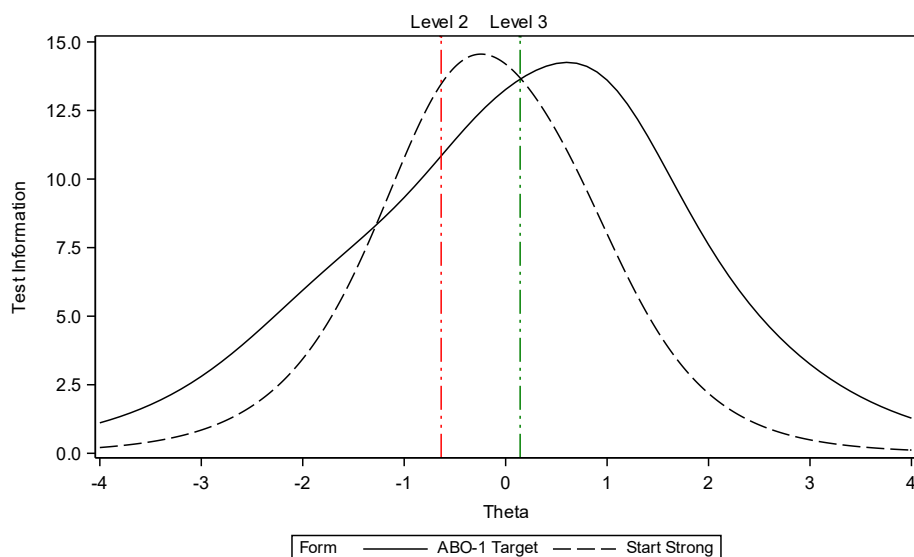


### Test Information Function (TIF) Curves

The TIF indicates the amount of “information” about student ability provided by the test at different points along the continuum from low to high ability. When a test provides more information, reliability (measurement precision) is greater. The peak of the TIF indicates the ability level at which the test is most reliable. When a test has proficiency levels separated by cut scores, the level of information provided at the cut scores should meet a minimum threshold to ensure accurate proficiency level classifications. Figure 3 is an example of a TIF.



Figure 2. Math Grade 4 Example TIF



### Target Test Information Function (TIF)

The Start Strong assessment forms were designed to support maximum information between the third and fourth proficiency level classifications of the NJSLA (Approached Expectations and Met Expectations). The logit cuts for these levels are provided in Tables 3 and 4. During the automated test assembly (ATA) process, these values may have been adjusted to better center the maximum information between the performance level cuts. In Figure 3, the Level 2 vertical reference corresponds to Cut 3 in Table 4 for grade 3 math content, while the Level 3 vertical reference corresponds to Cut 4.

Table 3. NJSLA ELA Summative Proficiency Level Logit Cut Scores

Content Grade	Fall Grade	Cut 3	Cut 4
3	4	-0.28	0.40
4	5	-0.51	0.28
5	6	-0.49	0.36
6	7	-0.48	0.40
7	8	-0.51	0.23
8	9	-0.54	0.19
9	10	-0.43	0.30



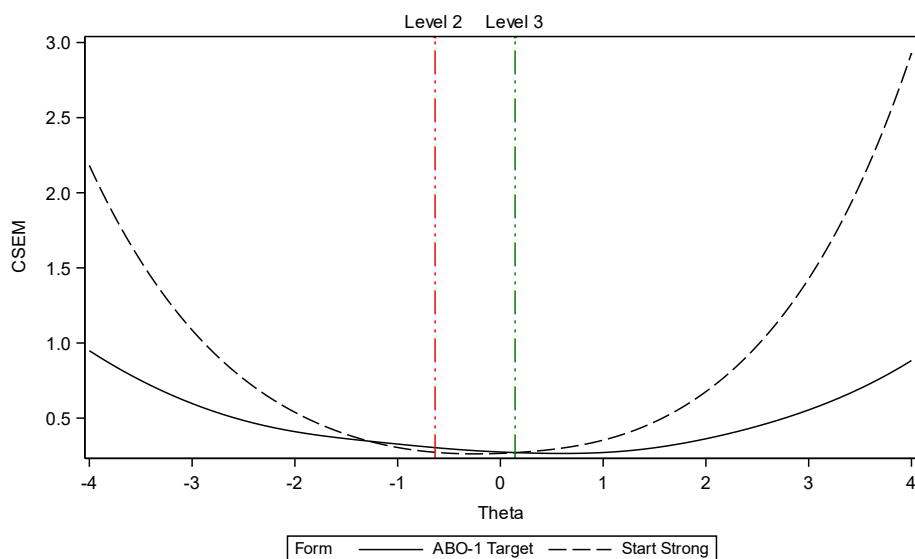
Table 4. NJSLA Math Summative Proficiency Level Logit Cut Scores

Content Grade	Fall Course/Grade	Cut 3	Cut 4
3	4	-0.64	0.14
4	5	-0.55	0.29
5	6	-0.60	0.27
6	7	-0.49	0.39
7	8	-0.45	0.55
8	Algebra I and Geometry	-0.13	0.63
Algebra I	Algebra II	-0.39	0.41

### Conditional Standard Error of Measurement (CSEM) Curves

The CSEM indicates the amount of measurement error across the theta scale. Note that the CSEM in Figure 4 is lowest for the same values of Theta where the test information in Figure 3 is greatest. Estimated test information is maximized when error is minimized (CSEM equals 1 divided by the square root of the test information).

Figure 3. Math Grade 4 Example CSEM Curve





# Assessment Administration

## Registration

### Available Accommodations

#### Test Accessibility Features and Accommodations

Standard 3.9 states that “[t]est developers and/or test users are responsible for developing and providing test accommodations, when appropriate and feasible, to remove construct-irrelevant barriers that otherwise would interfere with examinees’ ability to demonstrate their standing on the target constructs” (p. 67).

To ensure that the diverse population of students taking the Start Strong assessments are tested under appropriate conditions, and to adhere to the principles of universal design (Thompson et al., 2002), the Department has adopted test accommodations and accessibility features that may be used when testing special populations of students. The content of the test remains the same, but administration procedures, setting, and answer modes may be adapted. Students requiring accommodations may be tested in a separate location.

The accommodations provided for students taking the Start Strong assessments follow the policies and procedures outlined in the NJSLA/NJGPA Accessibility Features and Accommodations Manual (AF&A Manual). The AF&A Manual is available online at the [New Jersey Assessments Resource Center](#) website. Schools must refer to the AF&A Manual for information about identifying and administering accessibility features and accommodations.

#### Accessibility Features

The purpose of accessibility features is to ensure that a diverse population of students is being tested fairly and that construct-irrelevant factors are not unduly impacting their test scores. According to the *AF&A Manual*, accessibility features are defined as “tools or preferences that are either built into the testing platform or provided externally by Test Administrators” (pg. 1). All students have access to accessibility features. However, for some accessibility features to be available for students during testing, an administrator must have identified the student as needing the accessibility feature prior to testing. It is essential that students using accessibility features get to practice with them prior to operational testing. Thus, Start Strong practice tests that contain the accessibility features



are available throughout the year on the New Jersey Assessments Resource Center website.

**Text-to-Speech.** The most used NJSLA accessibility feature is text-to-speech (TTS). Prior to testing, an administrator activates the TTS accessibility feature for individual students. When the selected student gets placed into a testing session, their form automatically defaults to the designated TTS form. During testing, the student can select the TTS player, and the test will be read aloud to them via the TTS software embedded within TestNav. Students using the TTS accessibility feature must be wearing headphones. The items on the TTS form all contain the same phenomenon-based scenarios, item stems, and response options as are presented to the students taking the traditional computer-based testing (CBT) form.

## Accommodations

The role of accommodations is to minimize the impact of a student's disabilities or English language proficiency level on their assessment performance. The *AF&A Manual* defines accommodations as “adjustments to the testing conditions, test format, or test administration that provide equitable access during assessments for students with disabilities and students who are ELLs” (Section 2, p. 12). Accommodations are only available to students with an Individualized Education Program (IEP), a Section 504 plan, or an EL plan.

Different accommodations are necessary depending on whether the test was administered using a CBT or Paper-Based Test (PBT) format. Per the Department policy, each student who received a PBT version of the Start Strong assessments had an appropriate accommodation. A comprehensive explanation of each Start Strong accommodation is presented in the *AF&A Manual*. The Start Strong CBT accommodations include the following:

- Assistive Technology — Screen Reader
- Assistive Technology — Non-Screen Reader
- American Sign Language (ASL) Text-to-Speech (TTS)
- Human Reader
- Spanish
- Spanish Text-to-Speech
- Spanish Human Reader





PBT accommodations are received as kits. The following accommodated kits are available:

- Braille
- Large Print
- Read-Aloud
- Spanish
- Spanish Large Print
- Spanish Read-Aloud
- Tactile Graphics

**Accommodated test form development.** The *Standards* (AERA, APA, NCME, 2014) state that “an appropriate accommodation is one that responds to specific individual characteristics but does so in a way that does not change the construct the test is measuring or the meaning of the scores” (p. 67). Each of the accommodated test forms requires specific processes to ensure they are addressing the needs of their intended users. Please refer to the most recent [New Meridian Technical Report Alternate Blueprint](#), chapter 3.2, for more detail regarding appropriate accommodations made to the NJSLA forms and items. These forms and items were the basis of the Start Strong assessments.

**Accommodated test form equivalence.** Occasionally during the accommodated test form conversion process, an item is deemed unable to be accommodated. This can occur for a multitude of reasons — for example, some items do not translate well from English to Spanish, and others do not translate well to braille.



## Setup

### District Test Coordinator Training

District Test Coordinators (DTC) were trained virtually on proper test administration procedures using the Start Strong Fall 2022 Administration District Test and Technology Coordinator Training materials posted on the [New Jersey Assessments Resource Center](#) website. This training utilized the DTC training in PDF, recorded video, and PowerPoint formats. Information about the administration of the Start Strong assessments is available in the *2022 Computer/Paper-Based Testing User Guide* and the *Fall 2022 Administration Policies*. The DTCs were trained on the following topics:

- Overview of the Start Strong assessment.
- Key Administration Dates.
- Before Testing – Testing Requirements, Testing Environment, Accessibility Features and Accommodations, Maintaining Test Integrity, Start Strong Forms, Technology Setup, Student Registration/Personal Needs Profile (SR/PNP), Test Materials.
- During Testing – Preparing Test Sessions, Testing Tickets, Test Status, Operational Reports.
- After Testing – Marking Tests Complete, Stop Sessions, Not Tested and Void Flags, Paper Test Transcription, Test Materials, Contact Information.

## Administration

### Test Administration Integrity

The content of the Start Strong assessments comprises released items, and teachers are encouraged to review the released items after testing has finished. However, to provide a useful picture of a student’s ability, it is important to maintain the integrity of the test administration. Students need the opportunity to demonstrate their abilities without undue influence.

### Start Strong Administration Agreement

Before testing begins, all DTCs, School Test Coordinators (STCs), Technology Coordinators, Test Administrators (TA), proctors, or any authorized observers must complete the Start Strong Administration Agreement found at the [NJSLA Resource Center website](#), located under Start Strong, and keep a copy for their records. Authorized observers may include school principals, monitors from the NJDOE Office of Assessments, monitors from the school district, and other Department-authorized observers. STCs



should collect the forms for their schools and submit them to the DTC. Districts must retain signed forms for three years.

## Testing Irregularities

Any action that compromises score validity is prohibited. These actions may be classified as testing irregularities and must be reported on a Start Strong Testing Irregularity Form.

STCs must discuss potential testing irregularities with TAs during training. Examples of testing irregularities include:

- Testing Environment Irregularities:
  - Displaying any resource (e.g., posters, models, displays, teaching aids) that defines, explains, or illustrates terminology or concepts, or otherwise provides assistance, during testing.
  - Allowing preventable disruptions such as talking, noise, or excessive student movement around the classroom.
  - Allowing unauthorized visitors into the testing environment, such as parents/guardians, school board members, reporters, and school staff who are not authorized to serve as TAs or proctors.
- Test Administration Irregularities:
  - Failing to follow test administration directions.
  - Allowing more than 60 minutes of testing time for students who do not have an accommodation for extended time.
  - Failing to provide a student with a documented accommodation or providing a student with an accommodation that is not documented and, therefore, is not appropriate.
  - A student taking the wrong test; if a student completes the wrong test, the DTC must immediately contact the NJDOE Program Coordinator for directions to void the test and assign a new one.
- Electronic Devices Irregularities:
  - Anyone using a prohibited handheld electronic device (e.g., cell phone, smartwatch, etc.) in the testing environment. **Exception:** Test Coordinators, Technology Coordinators, Test Administrators (TA), and proctors are permitted to use cell phones in the testing environment only in cases of emergencies or when timely administration assistance is needed.
- Test Supervision Irregularities:
  - Coaching students during testing, including giving nonverbal cues, hints, or suggestions; or paraphrasing or explaining any test items.
  - Allowing cheating of any kind.
  - Engaging in activities during testing that prevent proper student supervision (e.g., grading papers, reading a book, etc.).



- Leaving students unattended without a TA for any period of time while students are testing; proctors must be supervised by a TA at all times.
- Test Materials Irregularities:
  - Losing a student testing ticket or failing to keep control of usernames and passwords.
  - Losing a test booklet or math human reader script, or leaving either unattended.
  - Reading or viewing tests, unless needed to do so to administer an accessibility feature or accommodation.
  - Removing test booklets or math human reader scripts from locked storage for any purpose other than administering the test.
  - Providing unauthorized persons with access to the test.

Protocols are established to report and document any testing irregularity or security breach. All Test Administrators are trained to ensure the proper protocols are implemented. First, both the School and District Test Coordinators must be immediately notified. The DTC is then charged with immediately contacting their NJDOE State Contact. The DTC may require the STC to complete the Start Strong Testing Irregularity Form to document the incident. The DTC uploads the completed form to PearsonAccess<sup>next</sup>(PAN).

## Scores and Score Reports

### Scores

Student performance is reported using an overall raw score (i.e., number of points earned). While the raw score can be used to compare students who took the same assessment (e.g., grade 4 ELA), it cannot be used to compare students from an ELA assessment to students who took the math assessment, nor can it be used to compare students in 4th grade to 5th grade. Because the Start Strong assessments are designed to be classroom assessments for gauging where students are in their learning of previous content standards, converting the raw score to a percent correct for the purpose of assigning a grade is not appropriate.

### Support Level

Students are categorized into one of three support levels based on their individual total raw scores. Each support level is defined by a range of overall raw scores. There are three support levels:

- Level 3 — Less Support May Be Needed
- Level 2 — Some Support May Be Needed



- Level 1 — Strong Support May Be Needed

Students performing at a Level 3 may not require additional academic/instructional support in the tested content area while students in Level 1 will likely benefit from additional academic/instructional support in the tested content area.

These levels are derived from the New Meridian Summative scale for the NJSLA. For the Start Strong assessments, level 3 combines NJSLA proficiency levels 4 and 5, level 2 corresponds to NJSLA proficiency level 3, and level 1 combines NJSLA proficiency levels 1 and 2.

The Start Strong assessments proficiency levels are meant to indicate the amount of support a student might require. While these proficiency levels leverage the NJSLA summative cut scores (Tables 5 and 6), they are not intended to assign proficiency or mastery, because the purpose and blueprint of the Start Strong assessments are different from those of the NJSLA.

Table 5. Start Strong ELA Overall Proficiency Level Logit Cut Scores

Content Grade	Fall Grade	Level 2	Level 3
3	4	-0.28	0.40
4	5	-0.51	0.28
5	6	-0.49	0.36
6	7	-0.48	0.40
7	8	-0.51	0.23
8	9	-0.54	0.19
9	10	-0.43	0.30

Table 6. Start Strong Math Overall Proficiency Level Logit Cut Scores

Content Grade	Fall Course/Grade	Level 2	Level 3
3	4	-0.64	0.14
4	5	-0.55	0.29
5	6	-0.60	0.27
6	7	-0.49	0.39
7	8	-0.45	0.55
8	Algebra I and Geometry	-0.13	0.63
Algebra I	Algebra II	-0.39	0.41



## Score Reports

### Scoring

It is the responsibility of the test developer to establish scoring procedures (AERA, APA, NCME, 2014). Standard 6.8 states that “[a] scoring protocol should be established, which may be as simple as an answer key for multiple-choice questions” (p. 118). For the 2022 Start Strong assessments, the tests consisted entirely of machine-scorable items, allowing for immediate reporting of results. The procedures for the machine scoring of Start Strong student responses are described in the following section.

### Machine-Scored Items

All multiple-choice (MC) and technology-enhanced (TE) items are machine scored. Each item has a key (correct answer) associated with it, which has been supplied and verified by content specialists and approved by the Department prior to test administration. All student responses are machine scored based on these prior approved keys. The data from the student responses are then screened via Pearson’s Customer Data Quality (CDQ) team. The CDQ team verifies the accuracy of the student responses and metadata within two file types: the Summative Record File (SRF) and the Item Response File (IRF). Verification steps include validating variable acceptable ranges, computing raw overall scores and subscores, validating ID numbers and unique item numbers (UINs), and flagging inconsistent student records for investigation.

### Adjudication

Adjudication involves the careful review of all student responses to an item to ensure that its key was applied correctly and that no possible correct answer has been overlooked in the many prior key checks. All machine-scored items are adjudicated. The psychometric department uses the SRF and the IRF to analyze the student response patterns for each item. The response patterns are simple for items with limited possible options; for instance, an MC item has only five possible student responses (A, B, C, D, or blank). However, some TE items can have thousands of different student responses. The student response data is used to produce one file for each operational item that contains a Response ID, the point value associated with it (i.e., 0, 1, or 2), the total number and percentage of students selecting each response, the text of the response (retrieved from the item’s XML coding), and the item-total correlation associated with each response option that was selected



more than 100 times. Item means and item-total correlations are also calculated at the item level, and items are flagged for aberrant behavior.

The role of the content specialist during the adjudication process is to use the information housed in the adjudication files to identify any possible miskeys. They are instructed to first check items that were flagged for having low item means and item-total correlations, because those statistics could indicate that the item is not performing as intended. Next, they look at combinations of student responses that are keyed as receiving “0” points but have item-total correlations above 0. That combination of response-level data could also be an indication of a possible student response that deserves credit for a correct response but that has been keyed as incorrect. Finally, through a sorting process, the content specialists can relatively quickly review all other combinations of student responses. If there are any miskeys, key changes are submitted to the Department, and upon approval, subsequently corrected in the SRF and IRF. These steps are essential to ensuring both the reliability of student test scores and their valid interpretations.

## Reporting

The Start Strong assessments’ primary purpose was to provide instructional information to classroom teachers about students’ needs for additional support upon returning to school in the fall of 2022. The information provided by this assessment is a snapshot of a student’s understanding and should only be used with other supporting evidence (assignments, homework, etc.) when drawing conclusions about a student’s overall academic performance. Examples and further documentation of each report are available on the [New Jersey Assessments Resource Center Practice Test](#) and [Start Strong support](#) websites.

## Student-Level Reports

Three student-level reports were produced for the Start Strong assessments and are available via PAN..

- The **OnDemand Student Report** (ODR) shows the student’s support level and the scores on each reporting concept. Only students who received a valid score received an OnDemand Student Report.
- The **Student Performance Item Level Report** allows users to compare the support level assigned to individual students within a group, then drill down to an individual student’s response to each item. The **Individual Student Reports** (ISRs) communicate individual student Start Strong performance.



## Classroom-, School-, District-Level Reports

In addition to the student-level reports described above, educators also had access to the Results by Question Reports and Support Level Reports via PAN <sup>†</sup>.

- The **Results by Question Report** provides users with group-level information about student performance on specific items or standards.
  - **Question List** – The question list shows items in numerical order, along with the standard(s) to which each item is aligned; the reporting concept(s) the item is associated with; and the number and percentage of students who answered the item correctly, incorrectly, and partially correctly (for those items that are worth more than 1 point).
  - **Show Students** – Users can view individual student results by question.
- The **Support Level Reports** display the overall distribution of support levels for a group of students on a particular test and can be filtered by school, grade, or demographic information (e.g., gender, ethnicity, students with disabilities, etc.).

## Operational Analyses

### Overview of Testing Population

A total of approximately 1,420,271 Start Strong assessments were administered in the fall of 2022. Assessments were completed by students for ELA in grades 4 through 10 and math in grades 4 through 8 as well as for traditional high school math (Algebra I, Geometry, and Algebra II).

### Rules for Inclusion of Students in Analyses

Criteria for inclusion of students were implemented prior to all operational analyses. These rules were established by New Meridian psychometricians to determine which, if any, student records should be removed from analysis. This data screening process resulted in higher-quality, albeit slightly smaller, data sets. Across all math tests, 3.05 percent of tests results were removed, overwhelmingly for reason number three outlined below. For ELA, 1.29 percent of results were removed, mostly for reasons number one and three outlined below.





Student response data were excluded from analysis if:

1. Record is flagged for not being in the correct grade.
2. Record is a duplicate (if duplicate valid record, then include only the record with the higher raw score).
3. Record indicates the student visited <90 percent of items (responses must be “Answered,” “Answered Incomplete,” or “Visited”).

Additionally, in cases where students had more than one valid record, the record with the higher raw score was chosen. Records for students with administration issues or anomalies were excluded from analysis.

### Test Takers by Course/Grade and Mode

Table 7 presents, for each grade of ELA, the number of students who took the test. Table 8 presents the same information for all students who took the Math assessments, and Table 9 provides this information for students who took the math assessments in Spanish.

[Appendix C](#) provides the counts by test form. Counts are not reported in which fewer than 20 students tested.

Table 7. ELA Students by Grade

Test Code	Valid Cases
ELA04	92,861
ELA05	94,407
ELA06	95,564
ELA07	96,557
ELA08	99,745
ELA09	98,984
ELA10	98,707
ALL	676,825



Table 8. Math Students by Grade

Test Code	Valid Cases
MAT04	92,492
MAT05	92,679
MAT06	95,545
MAT07	92,105
MAT08	70,830
ALG01	102,871
GEO01	95,654
ALG02	85,400
ALL	727,576

Table 9. Spanish-Language Math Students by Grade

Test Code	Valid Cases
MAT04	2,359
MAT05	2,155
MAT06	2,024
MAT07	2,050
MAT08	1,743
ALG01	2,336
GEO01	1,848
ALG02	1,003
ALL	15,518



## Population Demographics

[Appendix D](#) provides information pertaining to students with valid scores falling into the following demographic groups: economically disadvantaged, students with disabilities, EL, gender, and race/ethnicity (American Indian/Alaska Native, Asian; Black/African American, Hispanic/Latino, White/Caucasian, Native Hawaiian or Other Pacific Islander, two or more races reported, race not reported). Student demographic information was provided by the districts and captured in the administration vendor's platform by means of a student data upload. All tables of demographic information are organized by course/grade. Percentages are not reported in which fewer than 20 students tested in a course/grade area.

## Item-Level Summary Statistics

### Classical Test Theory (CTT) Statistics

This section describes the results of the classical item analysis conducted for data obtained from the operational test items during the Fall 2022 administration. Items from the non-accommodated English forms are analyzed. For each item, the analysis produced item difficulty (p-value) and item discrimination (item-total correlation) as described in the earlier [Statistical Consideration](#) section.

### Summary of Classical Item Analysis Flagging Criteria

In summary, items are flagged if the item analysis yielded any of the following results:

- A p-value above 0.95 for dichotomous items and above 0.80 for polytomous items.
- A p-value below 0.25 for dichotomous items and below 0.30 for polytomous items.
- An item-total correlation below 0.15.

The data for these and all subsequent analyses were verified by Pearson's Customer Data Quality (CDQ) team. Responses from students who did not attempt any items or who had their test scores voided were removed from the data set prior to analysis. The Department set the threshold for attemptedness as any student who made a legitimate student response to at least one item. Student responses could be voided for cheating, security breaches, or other reasons.



## CTT Results

This section presents tables summarizing the analyses for items on the forms. Table 10 provides the item statistics for the ELA grade 4 test form. The information includes the item unique identifying number (Item UIN), the maximum number of points possible, the number of students who did not reach the item (Unvisited), the number of students who visited the item but did not provide a response (Visited), the number of students for whom the answer was incomplete (Answer Incomplete), the number of students who fully answered the item (Answered), and the total number of students included for the analysis (Total N), followed by the Item Mean, p-value, and Item Total Correlation statistics. [Appendix E](#) provides similar information for each assessment by course/grade. Results for ELA grade 4 are repeated in [Appendix E](#).

For each administration, a set of statistics based on CTT was generated prior to item calibration and scaling. The statistics can be grouped into measures of three concepts:

- Item Difficulty
- Item Discrimination
- Differential Item Functioning

These statistics were calculated for every operational item; each statistic provides some key information about the quality of each item from an empirical perspective.

Descriptions of each type of statistic appear in the following sections.

Table 10. ELA04 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P-value	Item Total Correlation
0313_A_Start	2	8	265	835	91,722	92,557	0.63	0.32	0.23
0314_A_Start	2	1	245	329	92,255	92,584	0.87	0.44	0.44
0315_A_Start	2	15	362	382	92,071	92,453	0.35	0.17	0.09
0818_A_Start	2	.	203	369	92,258	92,627	0.99	0.50	0.47
0820_A_Start	2	.	152	275	92,403	92,678	1.46	0.73	0.50



Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P-value	Item Total Correlation
VF651767_Start	2	.	114	321	92,395	92,716	1.30	0.65	0.44
VF651815_Start	2	.	68	319	92,443	92,762	0.86	0.43	0.40
VF651834_Start	2	.	182	383	92,265	92,648	1.30	0.65	0.45
VF886878_Start	2	.	125	354	92,351	92,705	1.01	0.51	0.45
VH010150_Start	2	2	121	387	92,320	92,707	1.06	0.53	0.47

## Differential Item Functioning

### Overview

Differential item functioning (DIF) analyses were conducted using the data obtained from the operational items. If an item performs differentially across identifiable subgroups (e.g., gender or ethnicity) when students are matched on ability, the item may be measuring something other than the intended construct (i.e., possible evidence of DIF). It is important, however, to recognize that item performance differences flagged for DIF might be related to actual differences in relevant knowledge or skills (item impact) or a statistical Type I error. As a result, DIF statistics are used to identify potential item bias. Subsequent reviews by content experts and bias/sensitivity committees are required to determine the source and meaning of performance differences.

In this section, the DIF statistics are obtained by using the procedures found in the most recent [New Meridian Technical Report Alternate Blueprint](#).

### Operational Analysis DIF Comparison Groups

DIF analyses were conducted for designated comparison groups defined on the basis of demographic variables, including gender, race/ethnicity, economic disadvantage, and special instructional needs such as students with disabilities (SWD) or English learners (EL). Student demographic information was provided by the State and captured in PAN. These comparison groups are specified in Table 11.



Table 11. Traditional DIF Comparison Groups

Grouping Variable	Focal Group	Reference Group
Gender	Female	Male
Ethnicity	American Indian/Alaska Native	White
Ethnicity	Asian	White
Ethnicity	Black or African American	White
Ethnicity	Hispanic/Latino	White
Ethnicity	Native Hawaiian or Pacific Islander	White
Ethnicity	Multiple Race Selected	White
Economic Status*	Economically Disadvantaged	Not Economically Disadvantaged
Special Instructional Needs	English Learner	Not English Learner
Special Instructional Needs	Students with Disabilities	Students without Disabilities

Note: \*Economic status was based on participation in National School Lunch Program (receipt of free or reduced-price lunch).

Note: The Students with Disabilities category includes students with a range of disabilities, and the performance of these students can vary greatly between individuals.

DIF analyses were conducted when both of the following sample size requirements were met:

- The smaller group, reference or focal, had at least 100 students.
- The combined group, reference and focal, had at least 400 students.

### Operational Differential Item Functioning Results

Appendix F presents tables summarizing the DIF results. There is one table prepared for each content and course/grade (e.g., ELA grade 4).

In the DIF results tables, the column “Comparison” identifies the focal and reference groups for the analysis performed. “Total *N* of Unique Items” reports the number of unique items included in the analysis, and “Total *N* of Item Occurrences Included in DIF Analysis” reports the number of occurrences with sufficient sample sizes to be included in DIF analyses. In addition, “0” indicates that the DIF analysis did not classify any items in the particular DIF category, while “n/a” indicates that the DIF analysis was not performed due to insufficient sample sizes.



For ELA, significant DIF favoring the reference group was observed once for ELA grade 10 for the EL vs. not EL. For math, DIF advantaging the reference group was less than 5% for all course/grades except for math grade 5 (9%) and Algebra II (13%). There were instances in math when the focal group was advantaged significantly in all grades except grade 5. Typically, EL students were favored over non-EL students.

## Item Response Theory (IRT) Statistics

The purpose of the item response theory (IRT) calibration was to place all operational items for a single course/grade onto a common scale. Because the tests were pre-equated using released items, a preliminary calibration was conducted to inspect the item parameter stability and to inform future form updates.

### IRT Data Preparation

The post-administration check was based on the majority of students testing in the administration. All student response data in the samples were used to create the IRT sparse data. Items on the English language base forms were included in the post-equating analysis. Table 12 lists the counts of students included in the calibration samples and numbers of items for each assessment.

Table 12. Calibration Sample Sizes and Numbers of Items

Test Code	Count	Items
ELA04	92,812	10
ELA05	94,357	10
ELA06	95,501	10
ELA07	96,508	10
ELA08	99,692	10
ELA09	98,945	10
ELA10	98,685	10
MAT04	90,125	21
MAT05	90,515	23
MAT06	93,507	23
MAT07	90,042	22



Test Code	Count	Items
MAT08	69,073	20
ALG01	100,520	23
GEO01	93,800	24
ALG02	84,388	24

## Description of Calibration Process

Details for the calibration procedures can be found in Section 7 of the most recent [New Meridian Technical Report Alternate Blueprint](#).

### IRT Item Exclusion Rules

In addition to checking IRT data for accuracy, New Meridian conducted item analyses (IA) to identify items that were not performing as expected and should be considered for removal from calibration. The following are the criteria used to flag extremely problematic items to be dropped from calibration. The IRTPRO calibration software (Cai et al., 2011) control files were used to exclude from calibration items flagged for the following reasons:

1. An item total correlation less than 0.0.
2. An average item score of 0.0.
3. 100 percent of students having the same item score, such as:
  - 100 percent omitted the item.
  - 100 percent received the same score.
  - 100 percent of the responses were not presented or not reached.
4. Insufficient sample sizes for the selected IRT model combinations (e.g., 300 for the 2PL/GPC).
5. High omit rates (i.e., greater than 50 percent).

### IRT Results

Tables 13 and 14 summarize the items calibrated, including IRT parameter correlations with item bank statistics. [Appendix G](#) includes the scatterplots of the item bank versus the post-administration calibration for the *a*- and *b*-parameters. Any observed parameter instability could be the result of the use of released items as well as changes in difficulty between testing years and/or the lingering effects of the pandemic and unfinished learning.





Table 13. ELA Numbers of Items and Points and IRT Parameter Calibrations

Grade	Number of Items	Number of Points	a-Parameter Correlations	b-Parameter Correlations
4	10	20	0.9716	0.9639
5	10	20	0.9783	0.9385
6	10	20	0.9376	0.9062
7	10	20	0.9744	0.9638
8	10	20	0.8849	0.9195
9	10	20	0.9822	0.9247
10	10	20	0.9634	0.8499

Table 14. Math Numbers of Items and Points and IRT Parameter Correlations

Grade	Number of Items	Number of Points	a-Parameter Correlations	b-Parameter Correlations
4	21	24	0.9255	0.9036
5	23	25	0.6674	0.7883
6	23	25	0.9418	0.9367
7	22	25	0.9051	0.9499
8	20	23	0.8911	0.9700
Algebra 1	23	25	0.9400	0.8381
Geometry	24	28	0.9349	0.9456
Algebra 2	24	28	0.9473	0.9064

## Test-Level Summary Statistics

### Test Administration Times

Start Strong assessments were designed for a 60-minute administration in grades 4–8. Table 15 shows that for ELA, the median and mean time to complete the test was less than 26 minutes. For all grades, 90 percent of students completed the test in under 60 minutes. Students completed the grade 9 and 10 ELA tests especially quickly. Table 15 shows that the average testing time for these students was less than 23 minutes for both grades, and 90 percent of students completed the tests in under 34 minutes.

Table 15. ELA Test Administration Times

Test Code	N	Minimum	Median	90th pctile	Maximum	Mean	SD
ELA04	92,861	0.0	25.9	46.0	147.7	28.4	12.8
ELA05	94,407	0.0	22.7	41.1	195.9	25.3	11.8
ELA06	95,564	0.0	27.3	43.5	201.1	28.9	11.3
ELA07	96,557	0.0	24.0	39.1	154.5	25.8	10.6
ELA08	99,745	0.1	22.4	37.8	224.9	24.5	10.7
ELA09	98,984	0.0	20.9	32.6	250.2	22.2	8.6



Test Code	N	Minimum	Median	90th pctile	Maximum	Mean	SD
ELA10	98,707	0.0	21.1	33.9	180.2	22.5	9.2

Table 16 shows that the reportable median and mean times to complete the math tests were under 60 minutes. The time required for 90 percent of the students to complete the tests was between 52 and 60 minutes for all grades. Students taking the Spanish trans-adapted forms trended toward slightly longer times (Table 17). The time required for 90 percent of the students to complete the Spanish language tests was greater than desired for most course/grades.

Table 16. All Math Test Administration Times

Test Code	N	Minimum	Median	90th pctile	Maximum	Mean	SD
MAT04	92,492	0.6	32.7	55.3	223.1	34.9	14.5
MAT05	92,679	0.1	40.9	59.6	274.0	42.0	15.0
MAT06	95,545	0.1	35.5	54.7	214.1	36.9	13.1
MAT07	92,105	0.2	31.8	51.5	216.0	33.9	13.1
MAT08	70,830	0.1	39.1	57.9	257.2	40.1	14.3
ALG01	102,871	0.0	40.2	57.6	310.3	40.2	14.1
GEO01	95,654	0.1	39.2	56.7	298.5	39.1	14.0
ALG02	85,400	0.1	40.9	57.7	271.9	40.5	14.3

Table 17. Spanish Math Administration Times

Test Code	N	Minimum	Median	90th pctile	Maximum	Mean	SD
MAT04	2,359	3.7	36.8	64.1	157.9	40.2	18.9
MAT05	2,155	0.1	46.2	73.4	157.2	48.2	19.7
MAT06	2,024	3.5	38.6	63.2	214.1	41.1	17.5
MAT07	2,050	1.0	44.5	69.3	139.0	46.3	18.0
MAT08	1,743	1.9	47.4	74.8	144.5	49.7	19.1
ALG01	2,336	1.4	40.0	65.9	164.1	42.2	17.9
GEO01	1,848	1.8	39.2	60.1	132.4	40.3	16.4
ALG02	1,003	1.3	40.9	64.6	121.2	42.2	17.8



## Test Scores and Classifications

### Score Distributions

[Appendix H](#) graphically represents the distributions of scores for grades 4– 10 ELA and grades 4– 8 math, Algebra I, Geometry, and Algebra II, respectively. The vertical axis of each graph, labeled “Density,” represents the proportion of students earning the score point indicated along the horizontal axis. For ELA, the y-axis ranges from 0 to 0.10, and the x-axis ranges from 0 to 20. For math, the y-axis ranges from 0 to .125, and the x-axis ranges from 0 to 30.

The distributions of the ELA scores in grades 4, 5, 8, 9 and 10 were somewhat left skewed, i.e., there were more students scoring in the higher point range. Grades 6 and 7 were more symmetrical, although grade 7 was very slightly skewed right, i.e., there were more students scoring in the lower score point range.

The distributions of the math scores skewed right, i.e., there were more students scoring in the lower score point range.

The cumulative frequency distributions for the scores are also presented in [Appendix H](#).

### Score Summary Statistics (All and by Demographic Group)

Subgroup statistics for all grades within subject are provided in [Appendix I](#).

#### ELA

In general, for all grades, the mean scores were higher for female students relative to male students. Mean scores were highest for Asian students and were lowest for Black/African American and Hispanic/Latino students. Economically disadvantaged students performed less well than students who are not economically disadvantaged. ELs performed less well than non-EL students. Students with disabilities performed less well than students without disabilities.

#### Math

In general, for all grades/subjects, the mean scores were higher for male students relative to female students. Mean scores were highest for Asian students and were lowest for Black/African American students. Economically disadvantaged students performed less well than students who are not economically disadvantaged. ELs performed less well than non-EL students. Students with disabilities performed less well than students without disabilities. Students using the Spanish-language form tended to have lower mean scores.



## Support Classification Distributions (All and by Demographic Group)

[Appendix J](#) represents the support classification distributions for grades 4–10 ELA and grades 4–8 math, Algebra I, geometry, and Algebra II, respectively.

The distributions of the ELA support classifications vary by grade. Students classified as Level 1, “Strong Support May Be Needed,” range from 27.41 percent to 39.27 percent. Students classified as Level 3, “Less Support May Be Needed,” range from 39.74 percent to 50.64 percent.

The distributions of the math support classifications vary by course/grade as well. Students classified as Level 1, “Strong Support May Be Needed,” range from 34.03 percent to 55.95 percent. Students classified as Level 3, “Less Support May Be Needed,” range from 19.74 percent to 37.07 percent.

Subgroup distributions for each grade within subject are also provided in [Appendix J](#).

### ELA

In general, for all grades the support classification Level 3, “Less Support May Be Needed,” was higher for female students relative to male students. Support classification Level 3 was highest for Asian students and was lowest for Black/African American and Hispanic/Latino students. Economically disadvantaged students performed less well than students who are not economically disadvantaged. ELs performed less well than non-EL students. Students with disabilities performed less well than students without disabilities. Across the grades, fewer students tended to be classified at Level 1 with increasing Level 3 classifications as grade level increased.

### Math

In general, for all grades/subjects the support classification Level 3, “Less Support May Be Needed,” was lower for female relative to male students. Support classification Level 3 was highest for Asian students and was lowest for Black/African American students. Economically disadvantaged students performed less well than students who are not economically disadvantaged. ELs performed less well than non-EL students. Students with disabilities performed less well than students without disabilities. Students using the Spanish language form had lower percentages of students in Level 3 than students using the English language form. Across the grades, more students tended to be classified at Level 2 with fewer students at Level 3 as grade level increased.



## Reliability

### Reliability

Reliability focuses on the extent to which differences in test scores reflect true differences in the knowledge, ability, or skill being tested rather than fluctuations due to chance. Thus, reliability measures the consistency of the scores across conditions that can be assumed to differ at random, especially which form of the test the student is administered. In statistical terms, the variance in the distributions of test scores, essentially the differences among individuals, is partly due to real differences in the knowledge, skill, or ability being tested (true variance) and partly due to random errors in the measurement process (error variance). Reliability is an estimate of the proportion of the total variance that is true variance.

There are several different ways of estimating reliability. The type of raw score reliability estimate reported here is an internal-consistency measure, which is derived from analysis of the consistency of the performance of individuals across items within a test. Internal consistency reliability is especially useful in cases like the Start Strong assessments where there are not alternate forms of an assessment; however, it is responsive to day-to-day variation due to, for example, the student's state of health or the testing environment.

Reliability coefficients range from 0 to 1. The higher the reliability coefficient for a set of scores, the more likely students would be to obtain very similar scores upon repeated testing occasions if the students do not change in their level of the knowledge or skills measured by the test. The reliability estimates in the following tables attempt to answer the question, "How consistent would the scores of these students be over replications of the entire testing process?"

Standard error of measurement (SEM) quantifies the amount of error in the test scores. SEM is the extent by which students' scores tend to differ from the scores they would receive if the test were perfectly reliable. As the SEM increases, the variability of students' observed scores is likely to increase across repeated testing. Observed scores with large SEMs pose a challenge to the valid interpretation of a single test score.

Reliability and SEM estimates were calculated and reported in [Appendix K](#).



## Raw Score Reliability Estimation

Reliability estimates are reported for overall scores and by subgroups. Cronbach's alpha coefficient (Cronbach, 1951) is influenced by test length, test characteristics, and sample characteristics (Lord & Novick, 1968; Tavakol & Dennick, 2011; Cortina, 1993). As test length decreases and samples become smaller and more homogeneous, lower estimates of alpha are obtained (Tavakol & Dennick, 2011; Pike & Hudson, 1998). Reliability coefficient values in the range 0.6–0.7 may be considered acceptable, and values between 0.8 and 0.95 can be considered good to excellent (Cortina, 1993; Schmitt, 1996). Estimates lower than 0.5 may indicate a lack of internal consistency. Additional analyses investigate whether lower estimates of alpha are due to restriction in range of the sample. In these cases, the alpha estimates are not appropriate measures of internal consistency.

### ELA

The reliability estimates for grades 4 through 10 ELA range from 0.67 to 0.78. The raw score SEMs range from 1.34 to 1.73.

### Math

The reliability estimates for math assessments range from 0.82 to 0.93. The raw score SEMs range from 1.77 to 2.49.

## Reliability Results for Subgroups of Interest

When the sample size was sufficiently large, raw score reliability and SEM were estimated for the groups identified for DIF analysis. Estimates were calculated only for groups of 100 or more students who were administered a specific test form.

[Appendix K](#) also summarizes base test reliability for groups of interest for all grades in ELA and math. Reliability estimates and sample sizes are listed for each group. Note that reliability estimates are dependent on score variance, and subgroups with smaller variance are likely to have lower reliability estimates than the total group.

## Reliability Results for Gender

### English Language Arts

Reliability estimates and SEMs for males and females reflect the corresponding reliabilities for the total group. For most tests, the reliabilities between males and females are equal to or within 0.03. The SEMs for females are slightly lower than for males for all tests except



for grade 7, indicating more variability in the scores of male students, which may suggest greater differences in readiness for learning within this student group.

### Math

As with the ELA tests, the reliability estimates and SEMs for males and females reflect the corresponding reliabilities for the total group. For most tests, the reliabilities between males and females are equal to or within 0.03. The SEMs for females are slightly lower than for males for all tests indicating more variability in the scores of male students, which may suggest greater differences in readiness for learning within this student group.

## Reliability Results for Ethnicity

### English Language Arts

The majority of reliabilities for the ethnicity groups are 0.01 to 0.11 lower than for the total group. There is not a consistent difference among reliabilities, which range from 0.56 and 0.80. Likewise, there is not a consistent difference among the SEMs, which range from 1.24 to 1.77.

### Math

As with the ELA reliabilities, the reliabilities for ethnicity groups are marginally lower than for the total group of students, ranging from 0.01 to 0.08. There is not a consistent difference among the reliabilities, which range from 0.86 and 0.93. Likewise, there is not a consistent difference among the SEMs, which range from 1.42 to 2.63.

## Reliability Results for Subgroups

### English Language Arts

Reliabilities for two groups of students (economically disadvantaged and EL students) are lower than the reliability for the total group of students and other groups of students. The reliabilities range from 0.39 to 0.78. The SEMs range from 0.65 to 1.71. Student results from groups with reliability statistics below 0.70 should be interpreted with caution.

### Math

Reliabilities for two groups of students (economically disadvantaged and EL students) are lower than the reliability for the total group of students and other groups of students. The reliabilities range from 0.71 to 0.93. The SEMs range from 1.21 to 2.47.



Although reliability statistics for economically disadvantaged students and EL students were lower than for other groups the statistics are acceptable to excellent.

## **Reliability of Classification**

The reliability of classifications for students was calculated using the computer program BB-CLASS (Brennan, 2004), which operationalizes a statistical method developed by Livingston and Lewis (1993, 1995). As Livingston and Lewis explain, this method uses information from the administration of one test form (e.g., distribution of scores, the minimum and maximum possible scores, the cut points used for classification, and the reliability coefficient) to estimate two kinds of statistics: decision accuracy and decision consistency. Decision accuracy refers to the extent to which the classifications of students based on their scores on the test form agree with the classifications made on the basis of the classifications that would be made if the test scores were perfectly reliable. Decision consistency refers to the agreement between these classifications based on two non-overlapping, equally difficult forms of the test.

Decision consistency values are always lower than the corresponding decision accuracy values because in decision consistency, both of the classifications are subject to measurement error. In decision accuracy, only one of the classifications is based on a score that contains error. It is not possible to know which students were accurately classified, but it is possible to estimate the proportion of the students who were accurately classified. Similarly, it is not possible to know which students would be consistently classified if they were retested with another form, but it is possible to estimate the proportion of the students who would be consistently classified.

## **English Language Arts**

Table 18 provides information about the accuracy and the consistency of two types of classifications made on the basis of scores on the grades 4– 10 ELA assessments. The values provide the estimates of the indices based on classifications of students into one of three support levels.

The table shows that for classifying each student into one of the three proficiency levels, the proportion accurately classified ranges from 0.68 to 0.73 while the decision consistency ranges from 0.58 to 0.65.





Table 18. ELA Decision Accuracy and Decision Consistency

Grade	Decision Accuracy	Decision Consistency
ELA04	0.70	0.62
ELA05	0.72	0.63
ELA06	0.68	0.58
ELA07	0.69	0.59
ELA08	0.73	0.65
ELA09	0.69	0.60
ELA10	0.70	0.61

## Math

Table 19 provides information about the accuracy and the consistency of two types of classifications made on the basis of scores on the math assessments. The table shows that for classifying each student into one of the three support levels, the proportion accurately classified ranges from 0.77 to 0.84 while the decision consistency ranges from 0.69 to 0.79.

Table 19. Math Decision Accuracy and Decision Consistency

Grade	Decision Accuracy	Decision Consistency
MAT04	0.85	0.79
MAT05	0.84	0.78
MAT06	0.83	0.76
MAT07	0.84	0.78
MAT08	0.81	0.74
ALG01	0.77	0.69
GEO01	0.81	0.74
ALG02	0.79	0.72



## References

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.
- Brennan, R. L. (2004). Manual for BB-CLASS: A computer program that uses the beta-binomial model for classification consistency and accuracy. Version 1 (No. 9). CASMA Research Report.
- Cai, L., Thissen, D., & du Toit, S. H. C. (2011). IRTPRO: Flexible, multidimensional, multiple categorical IRT Modeling [Computer software]. Chicago, IL: Scientific Software International.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334.
- Livingston, S. A., & Lewis, C. (1993). Estimating the consistency and accuracy of classifications based on test scores. ETS Research Report Series, No. RR-93–48, Princeton, NJ: ETS.
- Livingston, S. A., & Lewis, C. (1995). Estimating the consistency and accuracy of classifications based on test scores. *Journal of Educational Measurement, 32*, 179–197.
- Lord, F. M., & Novick, M. R. (1968). *Statistical theories of mental test scores*. Reading, MA: Addison-Wesley.
- Luo, X. (2019). *xxIRT: Item Response Theory and Computer-Based Testing in R*. R package version 2.1.2. [cran.r-project.org/package=xxIRT](https://cran.r-project.org/package=xxIRT).
- New Meridian Corporation (2022). *New Meridian Technical Report 2021–2022 Alternate Blueprint*. Retrieved from <https://resources.newmeridiancorp.org/wp-content/uploads/2023/09/2022-Technical-Report-%E2%80%93-Alternate-Blueprint-Spring-2022.pdf>.



Pike, C. K., & Hudson, W. W. (1998). Reliability and measurement error in the presence of homogeneity. *Journal of Social Service Research*, 24, 149–163.

R Core Team (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. URL [R-project.org](https://www.R-project.org).

Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, (8), 350–353.

Student Achievement Partners (2020). *2020–2021 Priority Instructional Content in ELA/Literacy and Mathematics*. Retrieved from [achievethecore.org/content/upload/2020%E2%80%9321%20Priority%20Instructional%20Content%20in%20ELA%20Literacy%20and%20Mathematics\\_June%202020.pdf](https://achievethecore.org/content/upload/2020%E2%80%9321%20Priority%20Instructional%20Content%20in%20ELA%20Literacy%20and%20Mathematics_June%202020.pdf).

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. DOI: 10.5116/ijme.4dfb.8dfd

Thompson, S., Johnstone, C. J., & Thurlow, M. L. (2002). *Universal Design Applied to Large Scale Assessments* (Synthesis Report 44), Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes.



## Appendix A. Test Blueprints

### ELA

Table 20. ELA04 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	10
Informational	1	Reading Informational Text	10
Total	2		20

Table 21. ELA05 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	10
Informational	1	Reading Informational Text	10
Total	2		20

Table 22. ELA06 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	10
Informational	1	Reading Informational Text	10
Total	2		20

Table 23. ELA07 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	8
Informational	1	Reading Informational Text	12
Total	2		20



Table 24. ELA08 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	10
Informational	1	Reading Informational Text	10
Total	2		20

Table 25. ELA09 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	8
Informational	1	Reading Informational Text	12
Total	2		20

Table 26. ELA10 Blueprint

Passage Type	# of Passages	Reporting Category	Points
Literary	1	Reading Literary Text	8
Informational	1	Reading Informational Text	12
Total	2		20



## Math

Table 27. MAT04 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Operations and Algebraic Thinking	Represent and solve problems involving multiplication and division (3.OA.A.1–3.OA.A.4)	<b>Operations and Algebraic Thinking: Multiplication and Division</b>	5	6
Operations and Algebraic Thinking	Understand properties of multiplication and the relationship between multiplication and division (3.OA.B.5–3.OA.B.6)	<b>Operations and Algebraic Thinking: Multiplication and Division</b>	1	6
Operations and Algebraic Thinking	Multiply and divide within 100 (3.OA.C.7)	Operations and Algebraic Thinking: Operations	2	6
Operations and Algebraic Thinking	Solve problems involving the four operations, and identify and explain patterns in arithmetic (3.OA.D.8–3.OA.D.9)	Operations and Algebraic Thinking: Operations	2	6
Number and Operations - Fractions	Develop understanding of fractions as numbers (3.NF.A.1 – 3.NF.A.3)	Number and Operations: Fractions	6	6
Measurement and Data	Solve problems involving measurement and estimation (3.MD.A.1–3.MD.A.2)	Measurement	3	6



Measurement and Data	Geometric measurement: understand concepts of area and relate area to multiplication and to addition (3.MD.C.5–3.MD.C.7)	Measurement	2	6
----------------------	--	-------------	---	---

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.

Table 28. MAT05 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Operations and Algebraic Thinking	Use the four operations with whole numbers to solve problems (4.OA.A.1–4.OA.A.3)	Operations and Algebraic Thinking: Operations	6	6
Number and Operations in Base Ten	Generalize place value understanding for multi-digit whole numbers (4.NBT.A.1–4.NBT.A.3)	Number and Operations: Base Ten	3	7
Number and Operations in Base Ten	Use place value understanding and properties of operations to perform multi-digit arithmetic (4.NBT.B.4–4.NBT.B.6)	Number and Operations: Base Ten	4	7
Number and Operations - Fractions	Extend understanding of fraction equivalence and ordering (4.NF.A.1–4.NF.A.2)	Number and Operations: Fractions	4	6
Number and Operations - Fractions	Understand decimal notation for fractions, and compare decimal fractions (4.NF.C.5–4.NF.C.7)	Number and Operations: Fractions	1	6



Number and Operations - Fractions	Build fractions from unit fractions (4.NF.B.3–4.NF.B.4)	Number and Operations: Unit Fractions	5	6
-----------------------------------	---	---------------------------------------	---	---

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.





Table 29. MAT06 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Number and Operations in Base Ten	Understand the place value system (5.NBT.A.1–5.NBT.A.4)	Number and Operations: Base Ten	5	7
Number and Operations in Base Ten	Perform operations with multi-digit whole numbers and with decimals to hundredths (5.NBT.B.5–5.NBT.B.7)	Number and Operations: Base Ten	2	7
Number and Operations - Fractions	Use equivalent fractions as a strategy to add and subtract fractions (5.NF.A.1–5.NF.A.2)	Number and Operations: Addition and Subtraction of Fractions	5	6
Number and Operations - Fractions	Apply and extend previous understandings of multiplication and division (5.NF.B.3–5.NF.B.7)	Number and Operations: Multiplication and Division of Fractions	6	6
Measurement and Data	Geometric measurement: understand concepts of volume (5.MD.C.3–5.MD.C.5)	Measurement	5	6

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.



Table 30. MAT07 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems (6.RP.A.1–6.RP.A.3)	Ratios and Proportional Relationships	6	7
The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions (6.NS.A.1)	The Number System: Fractions	2	6
The Number System	Apply and extend previous understandings of numbers to the system of rational numbers (6.NS.C.5–6.NS.C.8)	The Number System: Fractions	4	6
Expressions and Equations	Apply and extend previous understandings of arithmetic to algebraic expressions (6.EE.A.1–6.EE.A.4)	Expressions and Equations: Algebraic Expressions	6	6
Expressions and Equations	Reason about and solve one-variable equations and inequalities (6.EE.B.5–6.EE.B.8)	Expressions and Equations: Equations and Inequalities	3	6
	Represent and analyze quantitative relationships between dependent and	Expressions and Equations: Equations and Inequalities	1	6



	independent variables (6.EE.C.9)			
--	-------------------------------------	--	--	--

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.



Table 31. MAT08 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems (7.RP.A.1–7.RP.A.3)	Ratios and Proportional Relationships	9	9
The Number System	Apply and extend previous understandings of operations with fractions to rational numbers (7.NS.A.1–7.NS.A.3)	The Number System: Fractions	6	6
Expressions and Equations	Use properties of operations to generate equivalent expressions (7.EE.A.1–7.EE.A.2)	Expressions and Equations	1	8
Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations (7.EE.B.3–7.EE.B.4)	Expressions and Equations	4	8

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.



Table 32. ALG01 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Expressions and Equations	Work with radicals and integer exponents (8.EE.A.1–8.EE.A.4)	Expressions and Equations: Radicals, Integer Exponents, Proportional Relationships, Lines, and Linear Equations	4	7
Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations (8.EE.B.5–8.EE.B.6)	Expressions and Equations: Radicals, Integer Exponents, Proportional Relationships, Lines, and Linear Equations	3	7
Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations (8.EE.C.7–8.EE.C.8 & 8.EE.C.Int.1)	Expressions and Equations: Linear Equations and System of Two Linear Equations	5	6
Functions	Define, evaluate, and compare functions (8.F.A.1–8.F.A.3)	Functions	6	6



Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software (8.G.A.1–8.G.A.4)	Geometry	2	6
Geometry	Understand and apply the Pythagorean Theorem. (8.G.B.7–8.G.B.8)	Geometry	2	6
Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. (8.G.C.9)	Geometry	1	6

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.

Table 33. GEO01 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Expressions and Equations	Work with radicals and integer exponents (8.EE.A.1–8.EE.A.4)	Expressions and Equations: Radicals, Integer Exponents, Proportional Relationships, Lines, and Linear Equations	3	6
Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations (8.EE.B.5–8.EE.B.6)	Expressions and Equations: Radicals, Integer Exponents, Proportional Relationships, Lines, and Linear Equations	3	6



Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations (8.EE.C.7–8.EE.C.8 & 8.EE.C.Int.1)	Expressions and Equations: Linear Equations and System of Two Linear Equations	4	6
Functions	Define, evaluate, and compare functions (8.F.A.1–8.F.A.3)	Functions	6	6
Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software (8.G.A.1–8.G.A.4)	Geometry	3	10
Geometry	Understand and apply the Pythagorean Theorem. (8.G.B.7–8.G.B.8)	Geometry	4	10
Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres. (8.G.C.9)	Geometry	1	10

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.



Table 34. ALG02 Blueprint

Content Domain	Major Content Cluster	Reporting Category	Number of Items*	Reporting Category # of Points
Seeing Structure in Expressions	Interpret the structure of expressions (A-SSE.A.1–A-SSE.A.2)	Seeing Structure in Expressions	5	7
Polynomials, Rational Expressions, and Equations	Perform arithmetic operations on polynomials (A-APR.A.1)	Polynomials, Rational Expressions, and Equations	2	6
Polynomials, Rational Expressions, and Equations	Create equations that describe numbers or relationships (A-CED.A.3–A-CED.A.4)	Polynomials, Rational Expressions, and Equations	4	6
Reasoning with Equations and Inequalities	Solve equations and inequalities in one variable (A-REI.B.3–A-REI.B.4)	Reasoning with Equations and Inequalities	3	6
Reasoning with Equations and Inequalities	Represent and solve equations and inequalities graphically (A-REI.D.10–A-REI.D.12)	Reasoning with Equations and Inequalities	3	6
Interpreting Functions	Understand the concept of a function and use function notation (F-IF.A.1–F-IF.A.2 & F-IF.A.Int.1)	Interpreting Functions	3	9
Interpreting Functions	Interpret functions that arise in applications in terms of the context (F-IF.B.4–F-IF.B.6)	Interpreting Functions	4	9

\*Due to accessibility issues, the Number of Items data was combined into one cell in the SIG.





## Appendix B. IRT Curves

### ELA

Figure 4. ELA04 Percent Correct Test Characteristic Curves

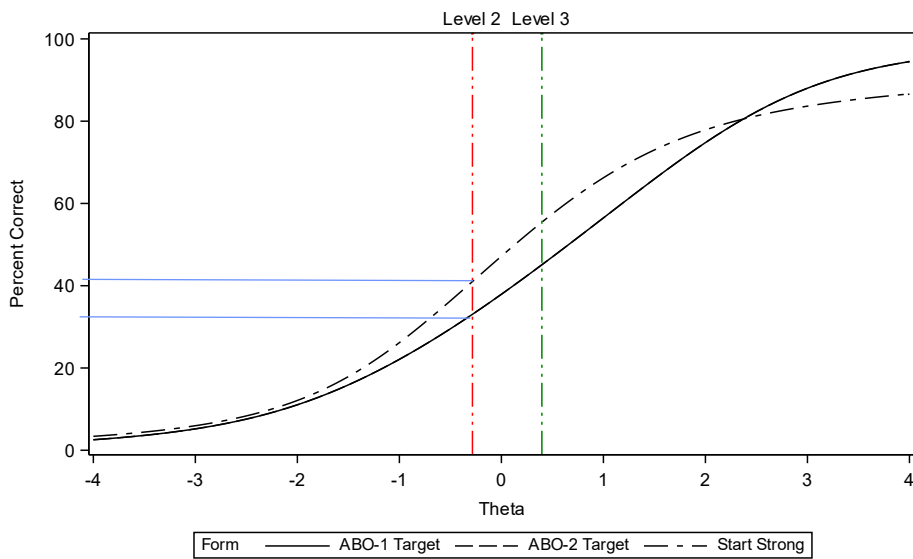


Figure 5. ELA04 Test Information Curves

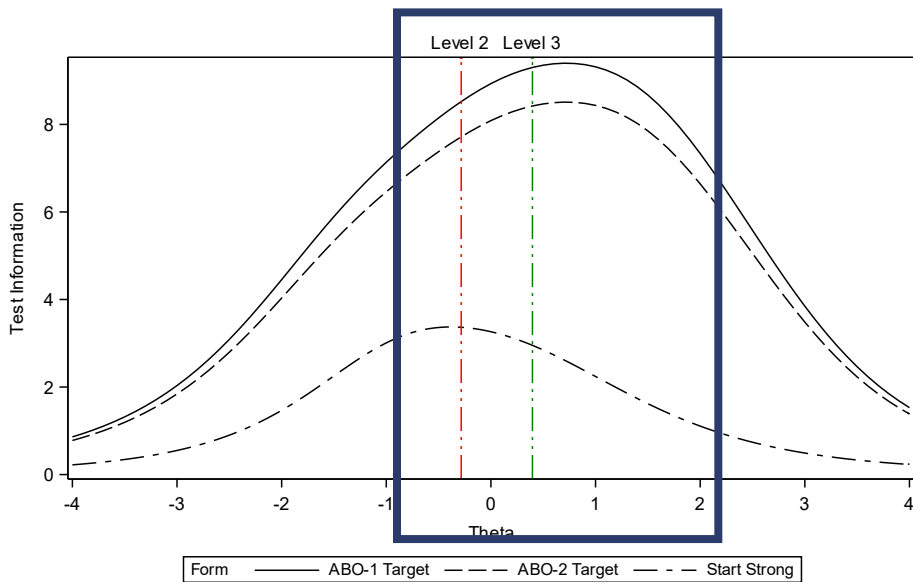




Figure 6. ELA04 Conditional Standard Error of Measurement Curves

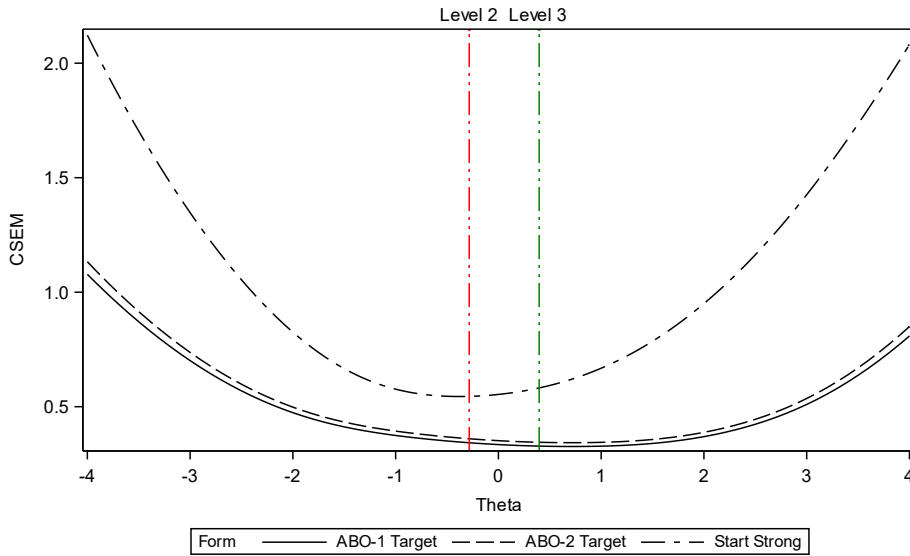


Figure 7. ELA05 Percent Correct Test Characteristic Curves

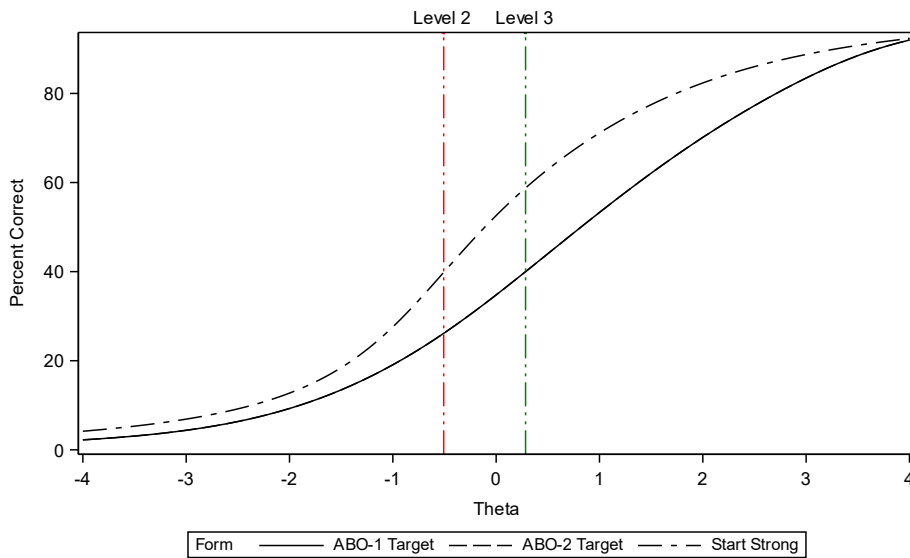




Figure 8. ELA05 Test Information Curves

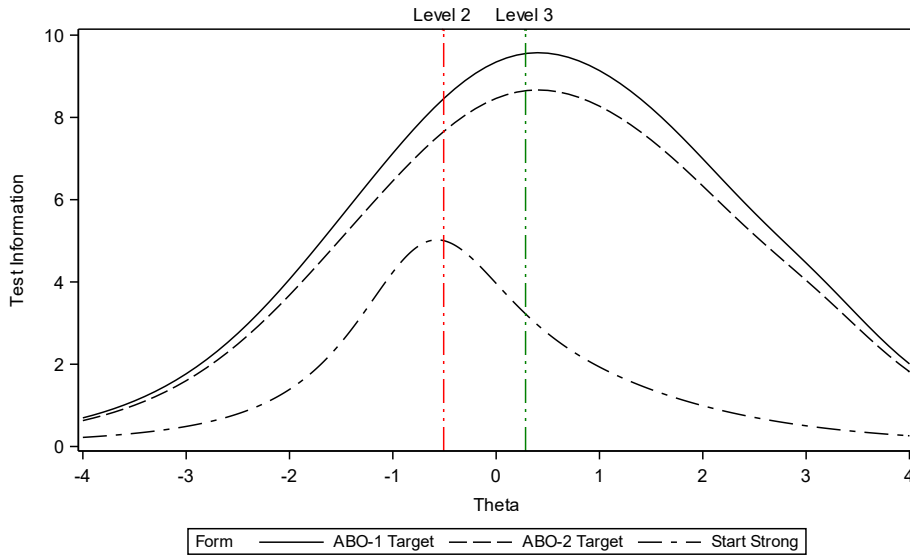


Figure 9. ELA05 Conditional Standard Error of Measurement Curves

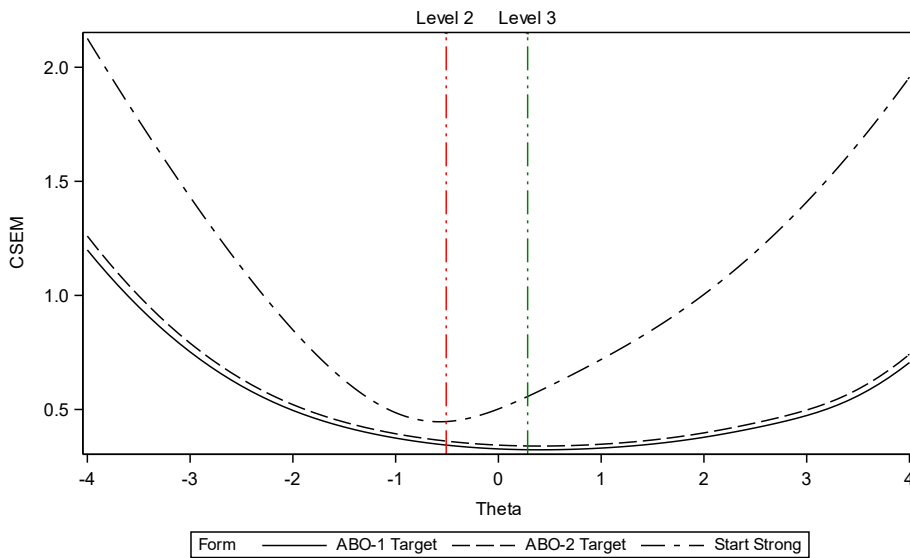




Figure 10. ELA06 Percent Correct Test Characteristic Curves

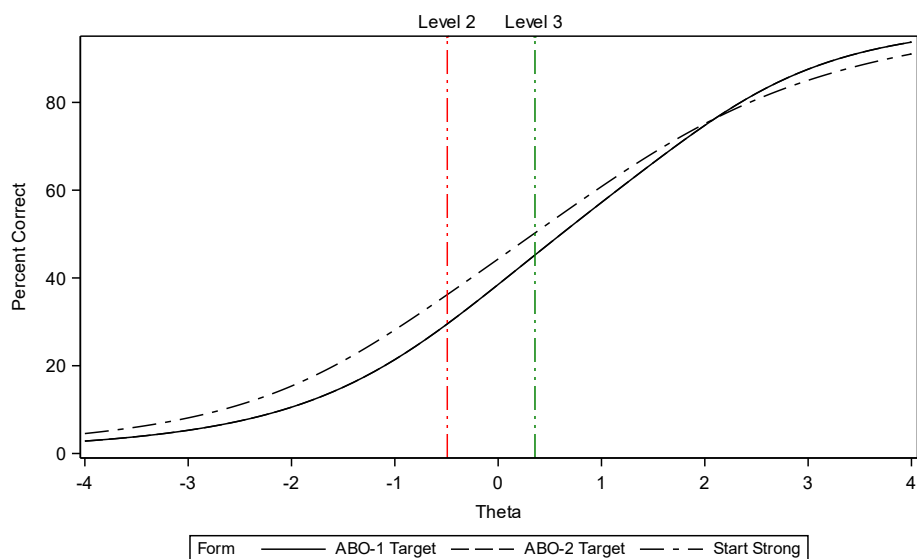


Figure 11. ELA06 Test Information Curves

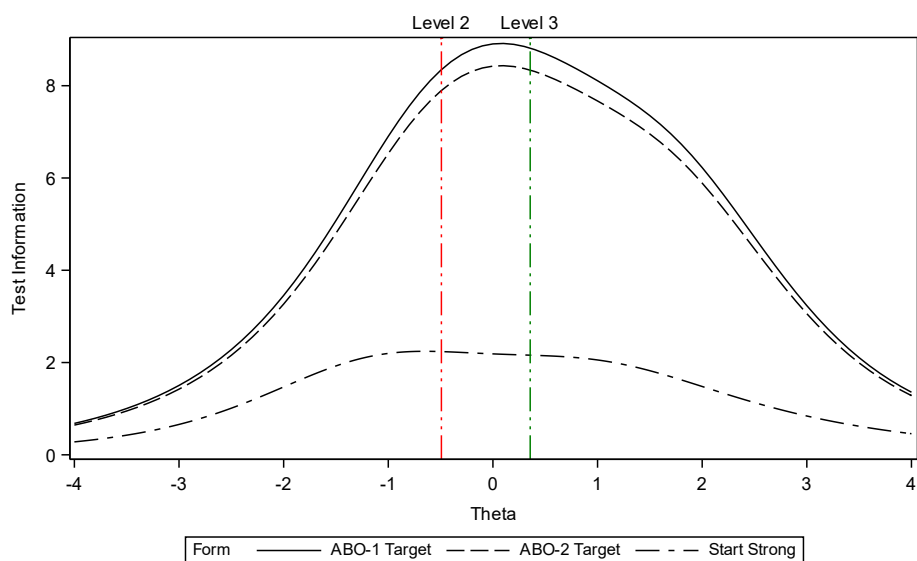




Figure 12. ELA06 Conditional Standard Error of Measurement Curves

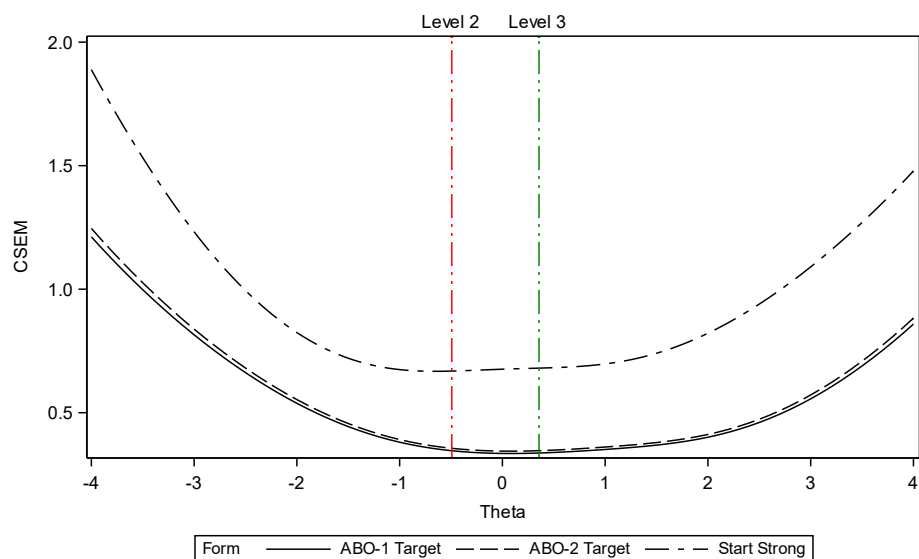


Figure 13. ELA07 Percent Correct Test Characteristic Curves

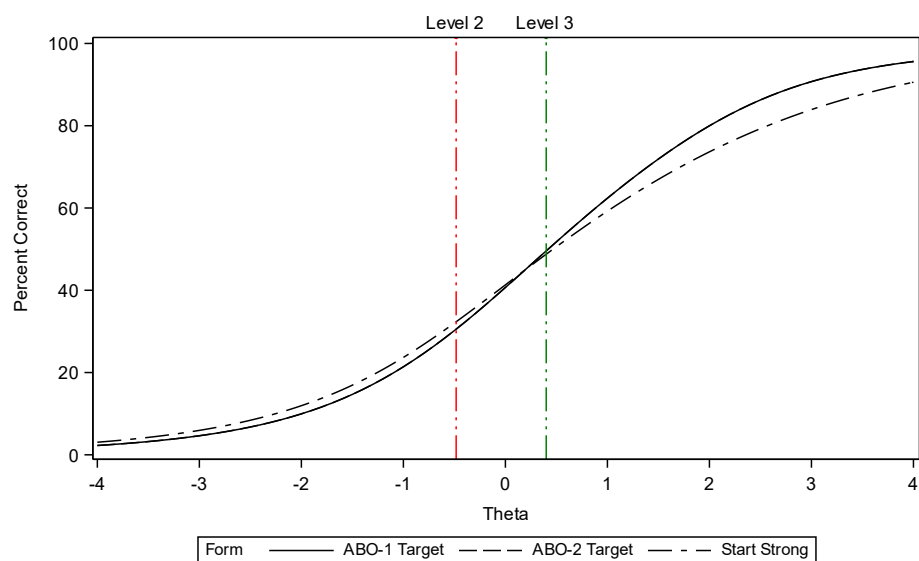




Figure 14. ELA07 Test Information Curves

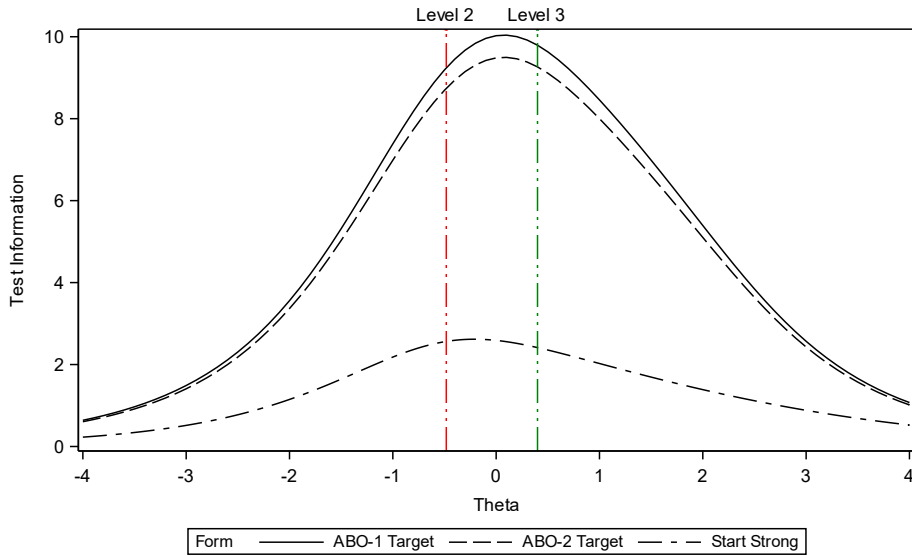


Figure 15. ELA07 Conditional Standard Error of Measurement Curves

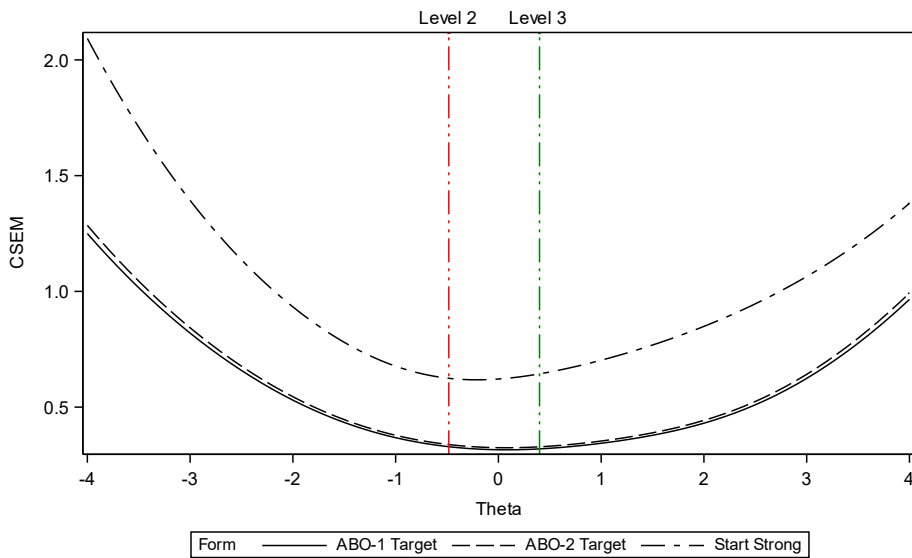




Figure 16. ELA08 Percent Correct Test Characteristic Curves

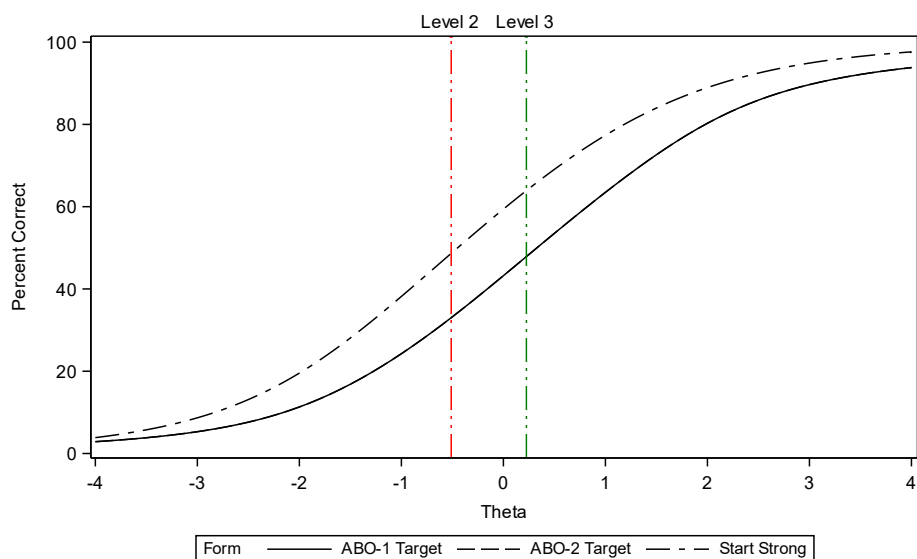


Figure 17. ELA08 Test Information Curves

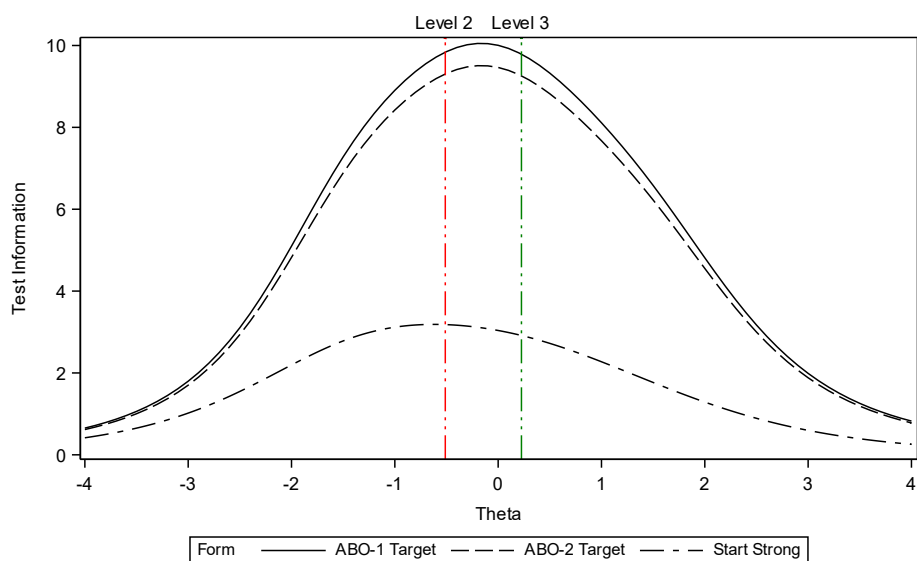




Figure 18. ELA08 Conditional Standard Error of Measurement Curves

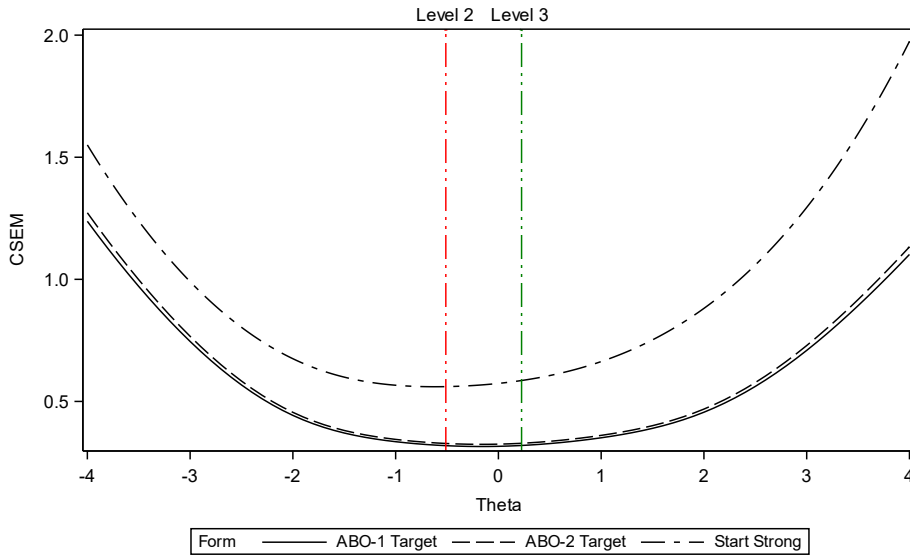


Figure 19. ELA09 Percent Correct Test Characteristic Curves

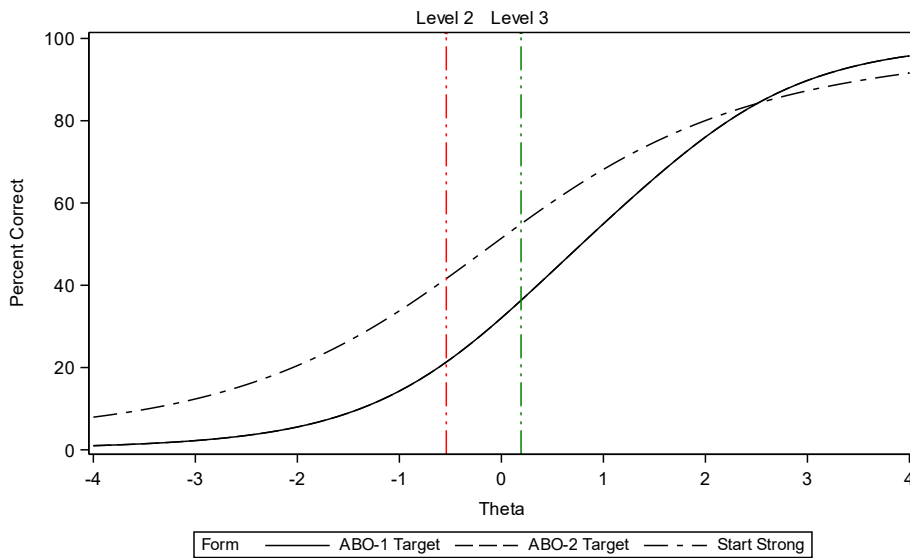






Figure 20. ELA09 Test Information Curves

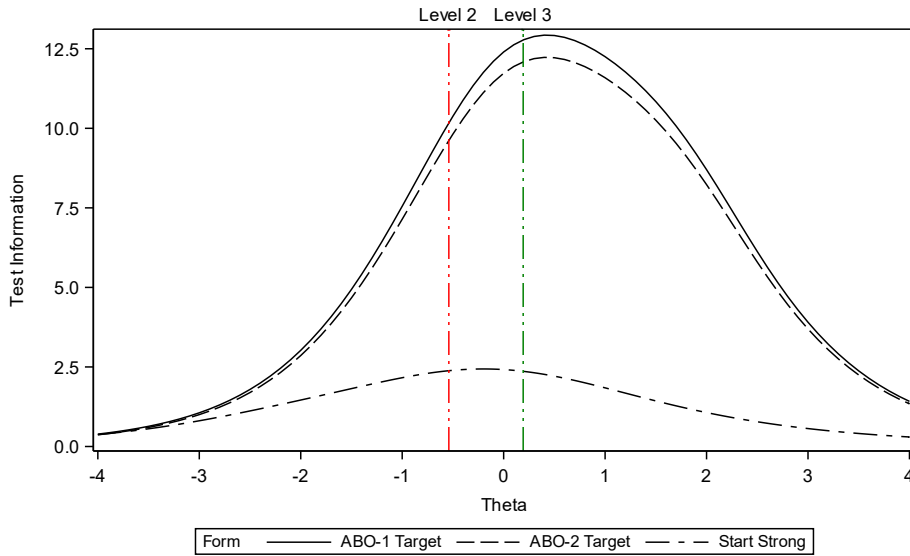


Figure 21. ELA09 Conditional Standard Error of Measurement Curves

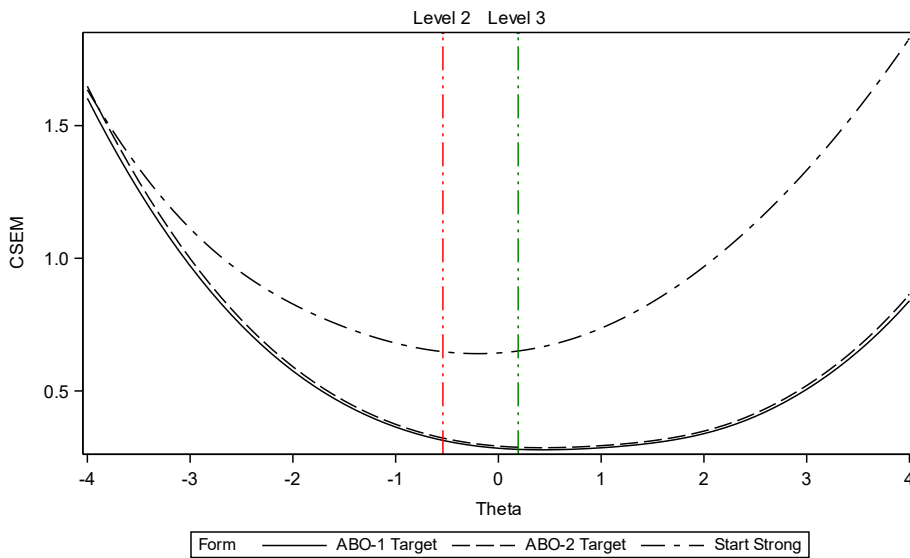




Figure 22. ELA10 Percent Correct Test Characteristic Curves

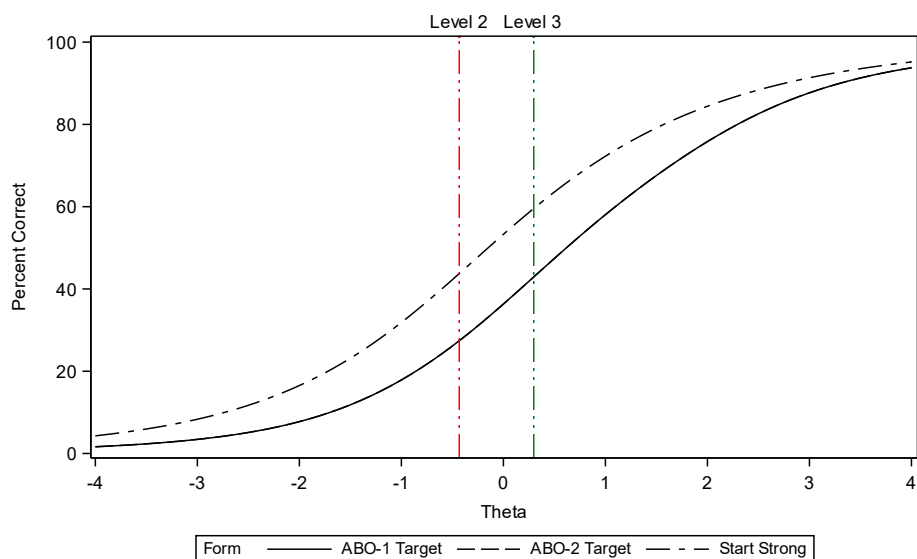


Figure 23. ELA10 Test Information Curves

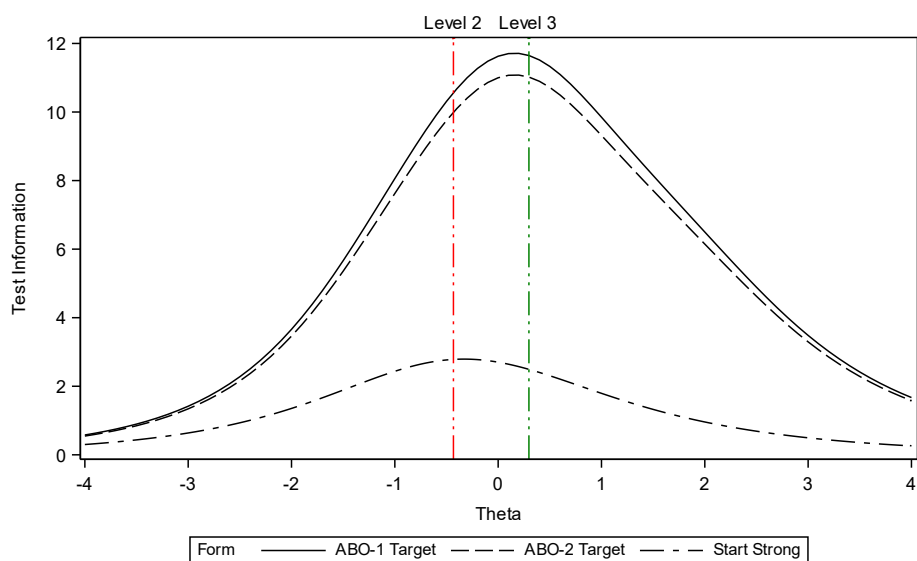
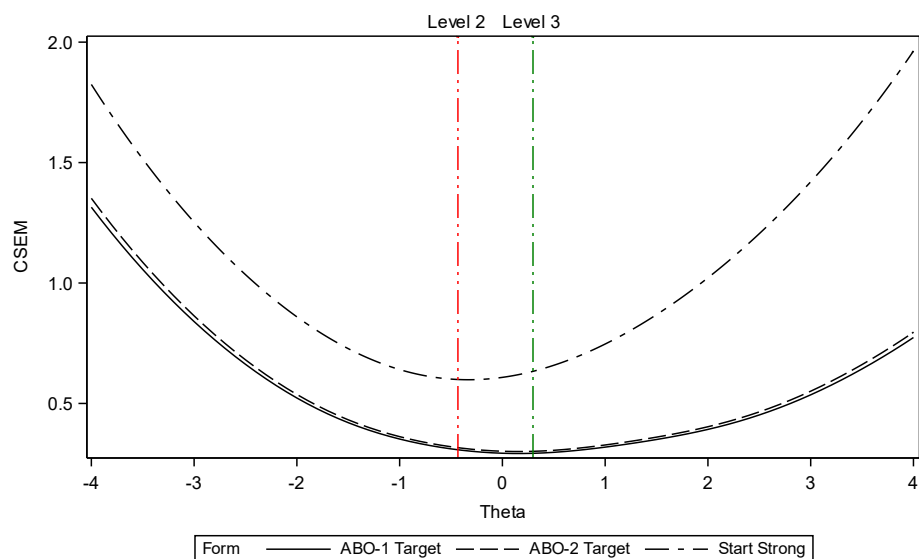




Figure 24. ELA10 Conditional Standard Error of Measurement Curves



## Math

Figure 25. MAT04 Percent Correct Test Characteristic Curves

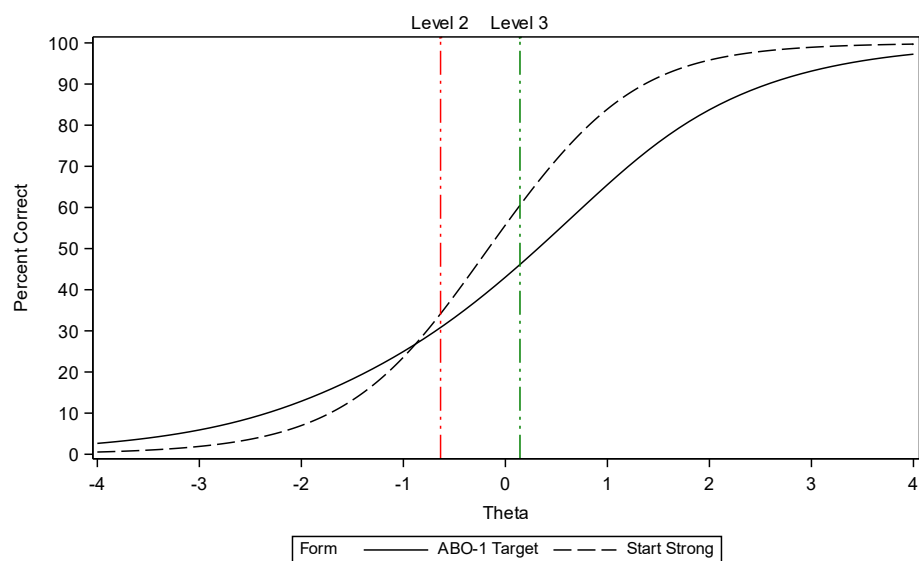




Figure 26. MAT04 Test Information Curves

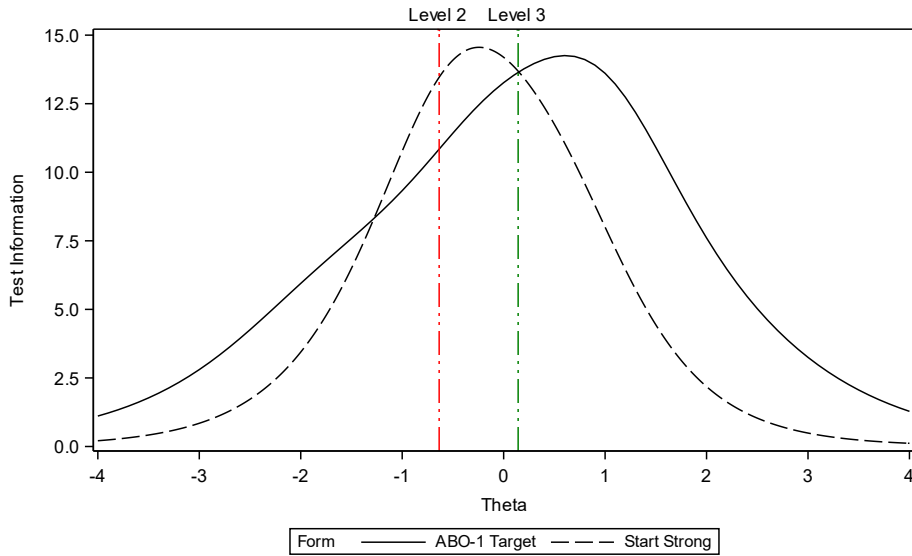


Figure 27. MAT04 Conditional Standard Error of Measurement Curves

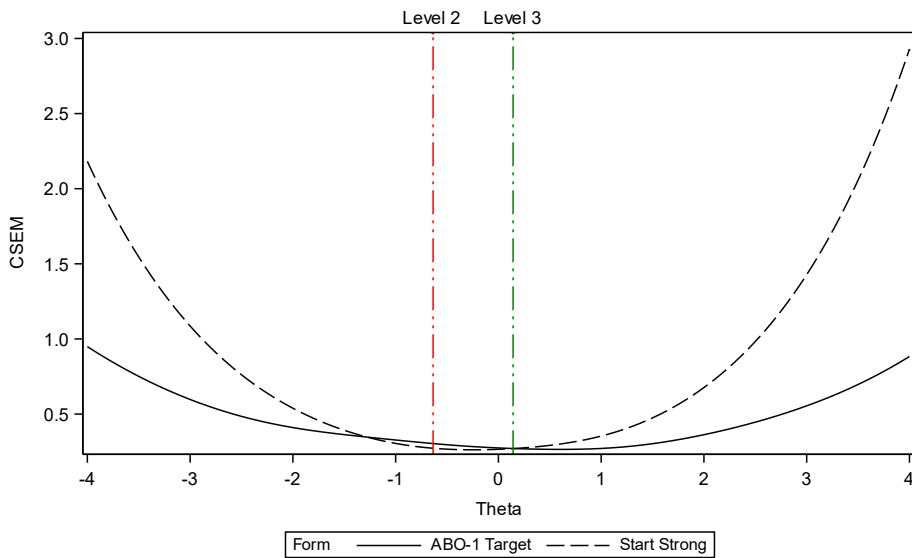




Figure 28. MAT05 Percent Correct Test Characteristic Curves

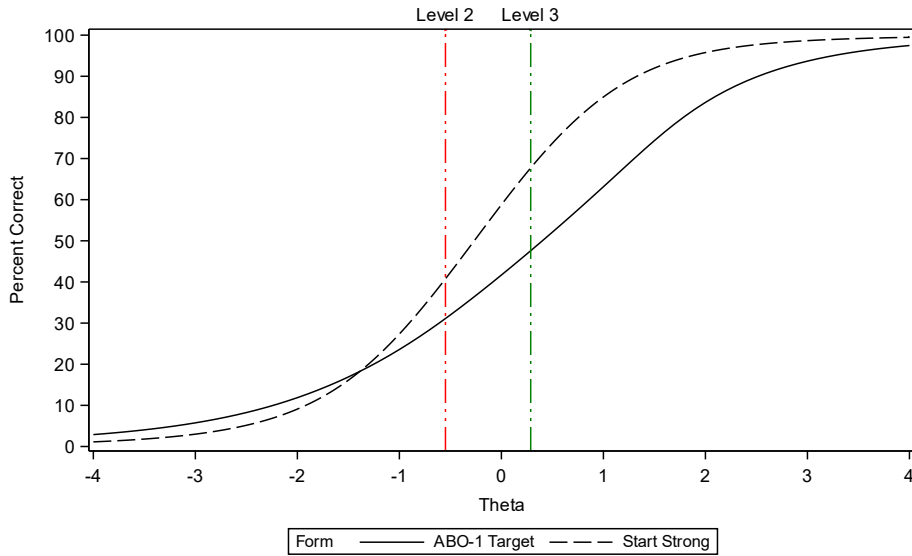


Figure 29. MAT05 Test Information Curves

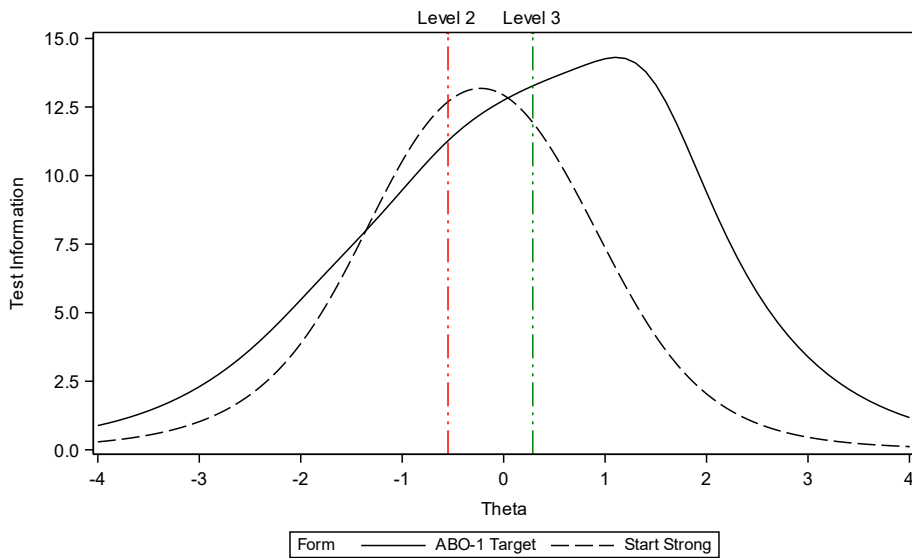




Figure 30. MAT05 Conditional Standard Error of Measurement Curves

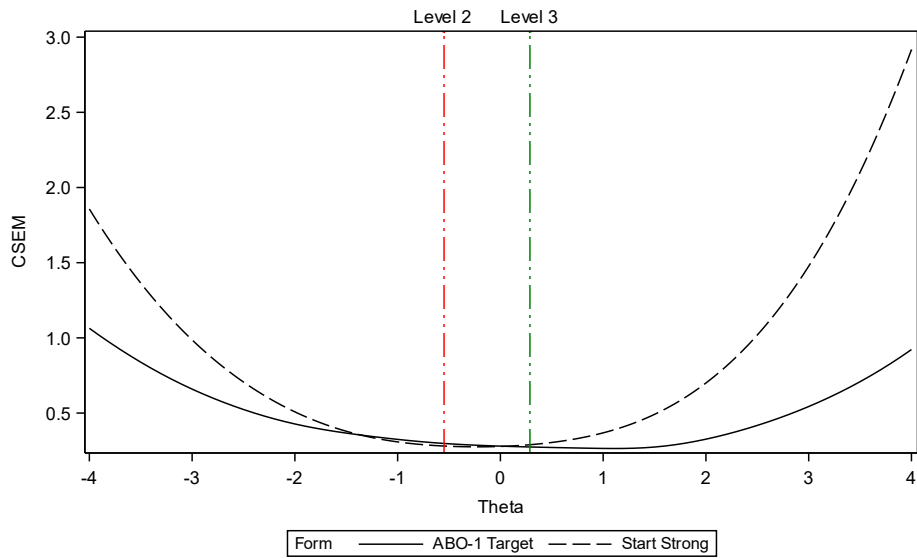


Figure 31. MAT06 Percent Correct Test Characteristic Curves

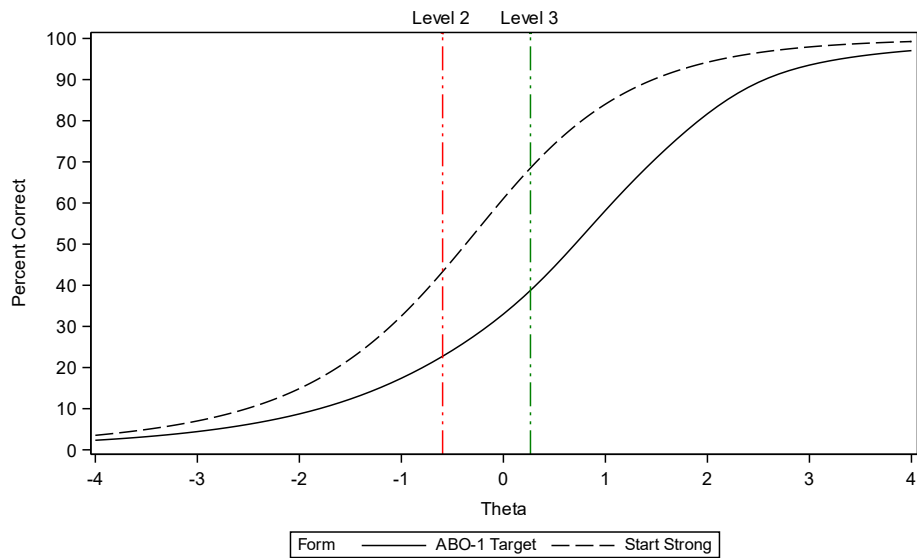




Figure 32. MAT06 Test Information Curves

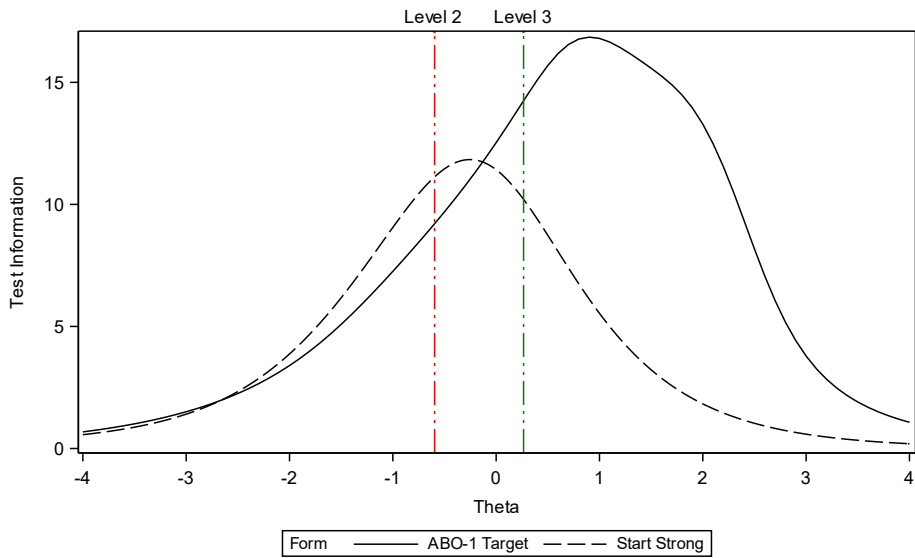


Figure 33. MAT06 Conditional Standard Error of Measurement Curves

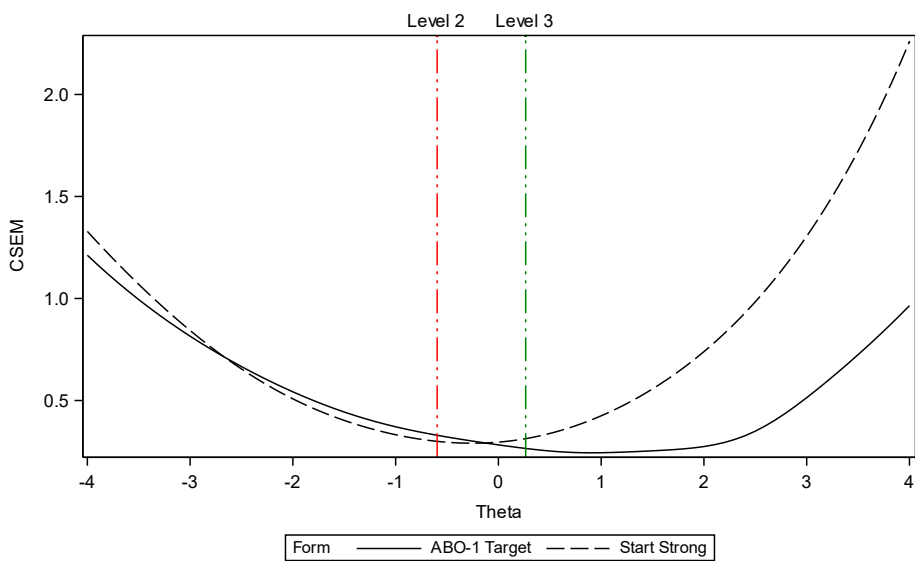




Figure 34. MAT07 Percent Correct Test Characteristic Curves

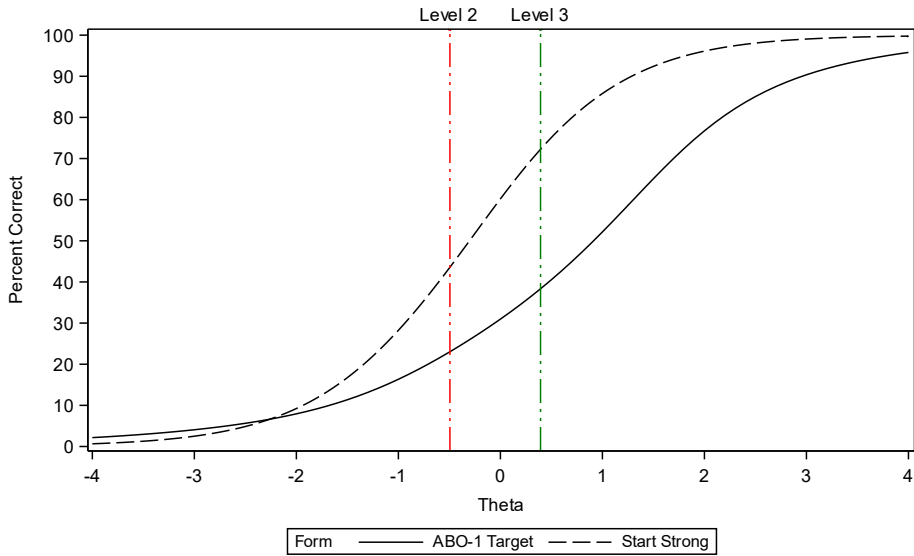


Figure 35. MAT07 Test Information Curves

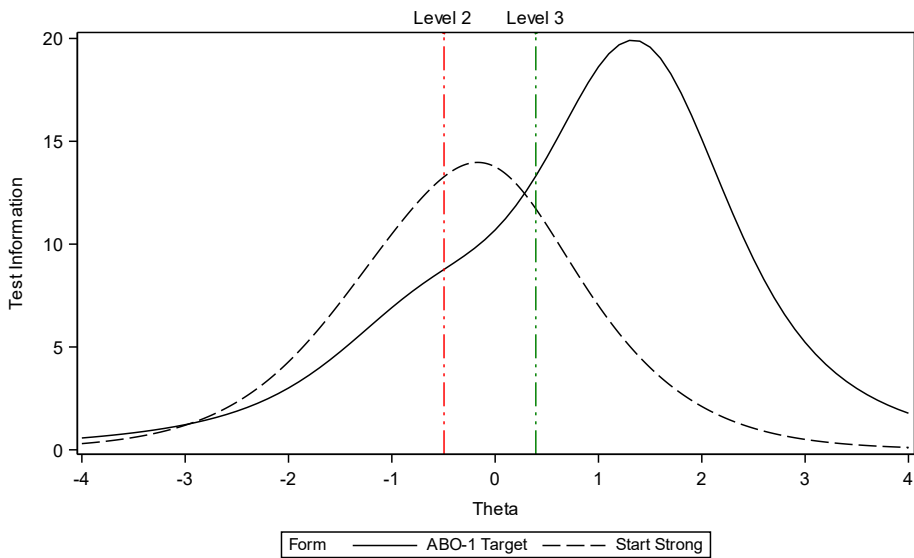






Figure 36. MAT07 Conditional Standard Error of Measurement Curves

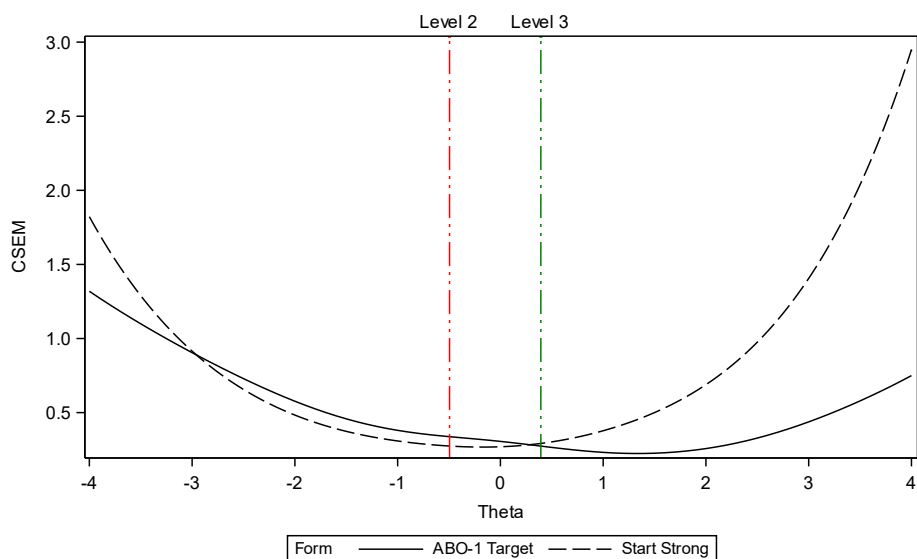


Figure 37. MAT08 Percent Correct Test Characteristic Curves

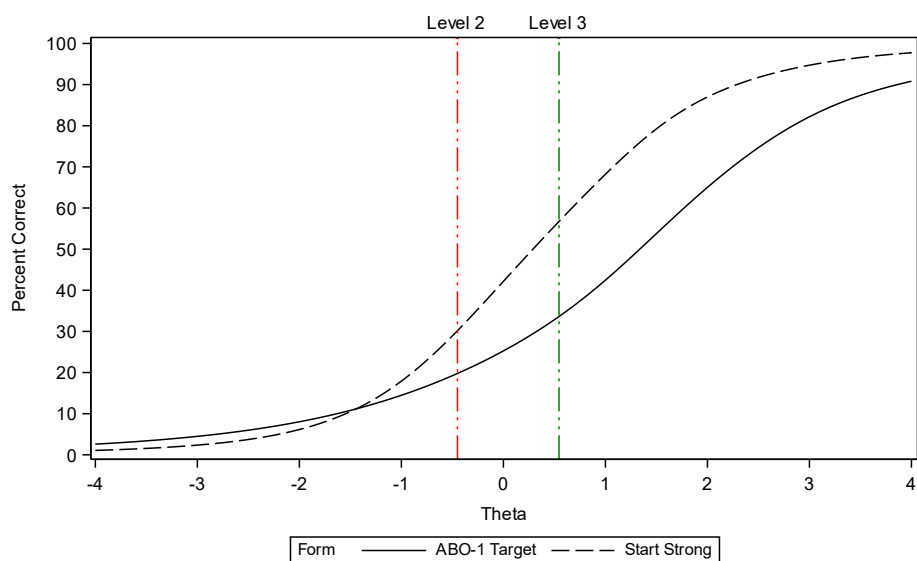




Figure 38. MAT08 Test Information Curves

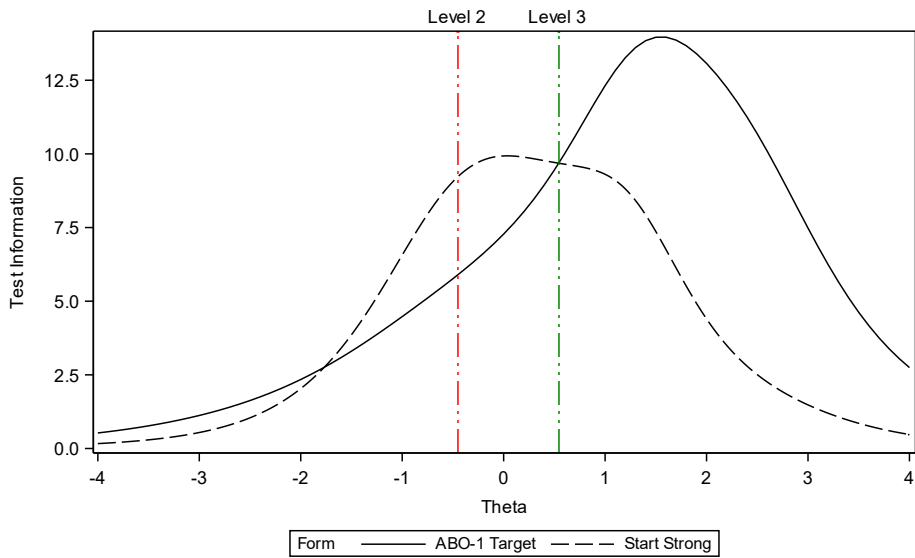


Figure 39. MAT08 Conditional Standard Error of Measurement Curves

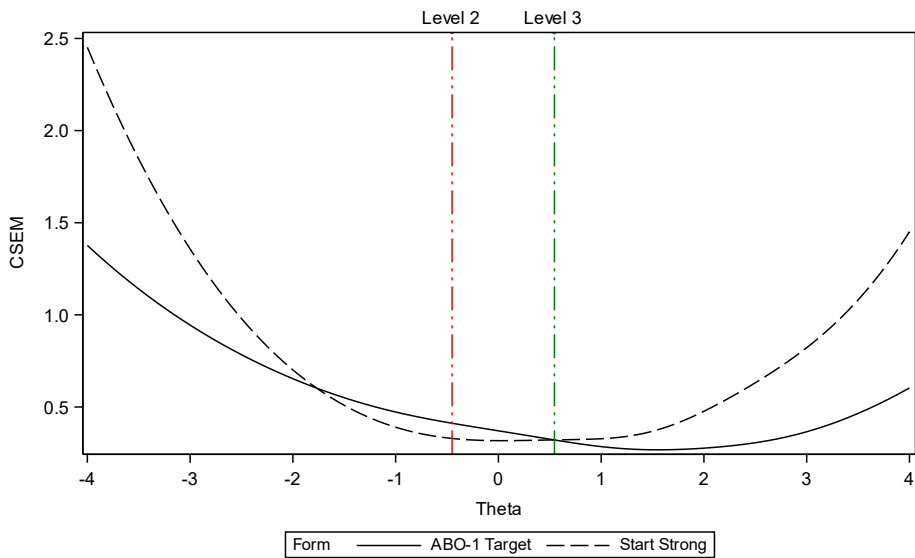




Figure 40. ALG01 Percent Correct Test Characteristic Curves

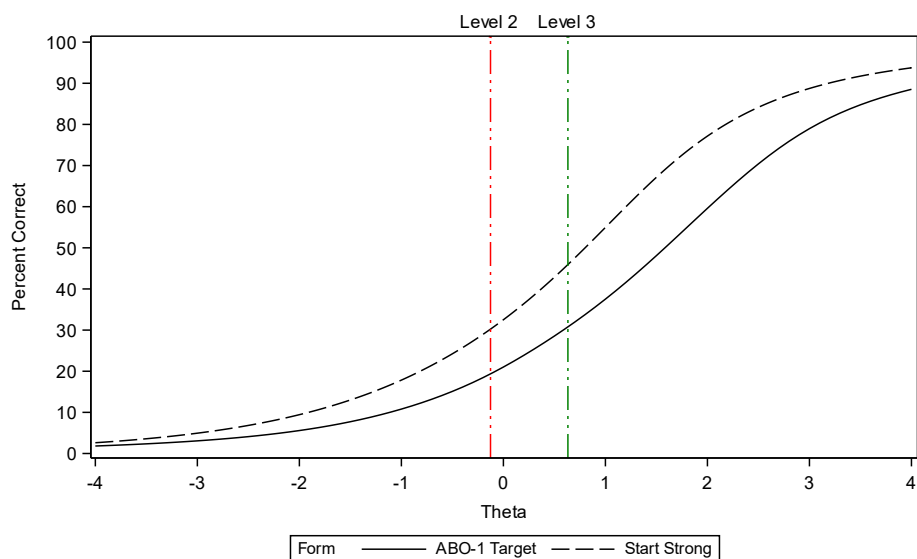


Figure 41. ALG01 Test Information Curves

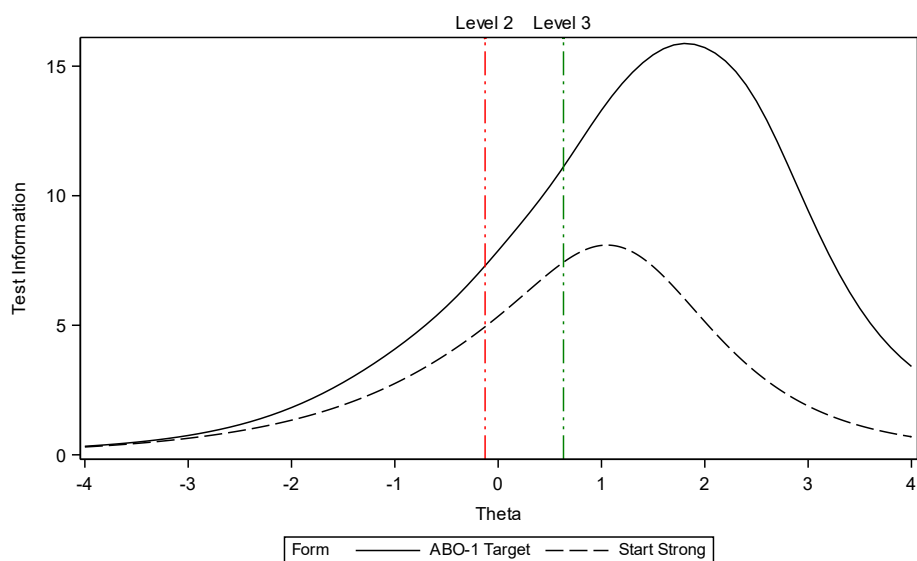




Figure 42. ALG01 Conditional Standard Error of Measurement Curves

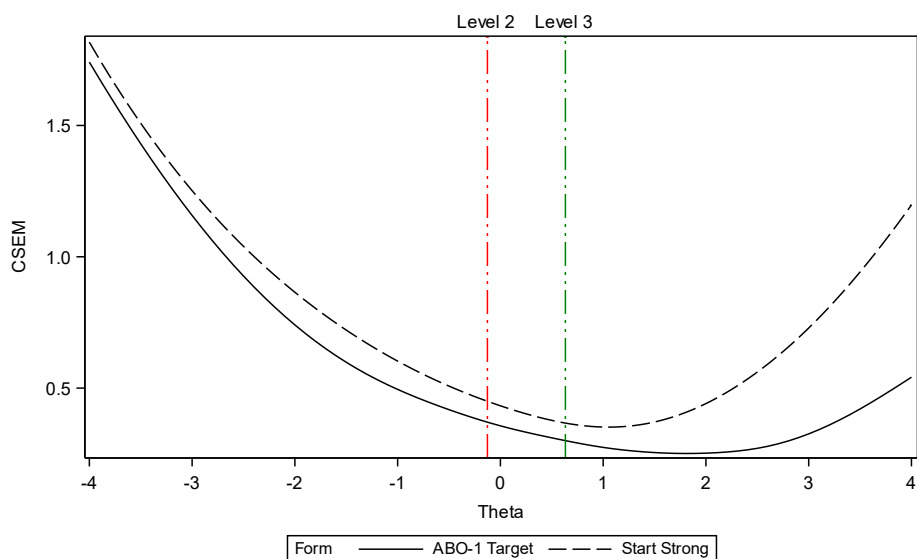


Figure 43. GEO01 Percent Correct Test Characteristic Curves

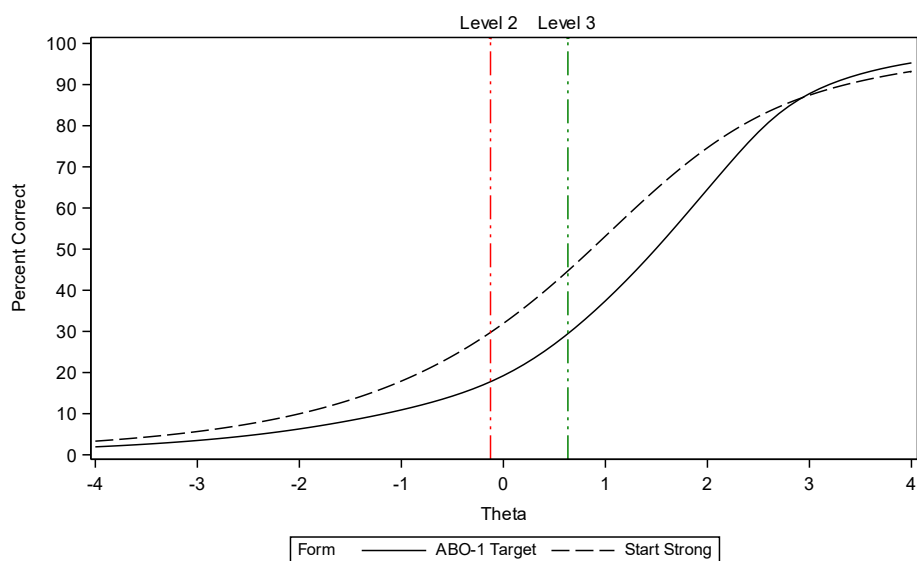




Figure 44. GEO01 Test Information Curves

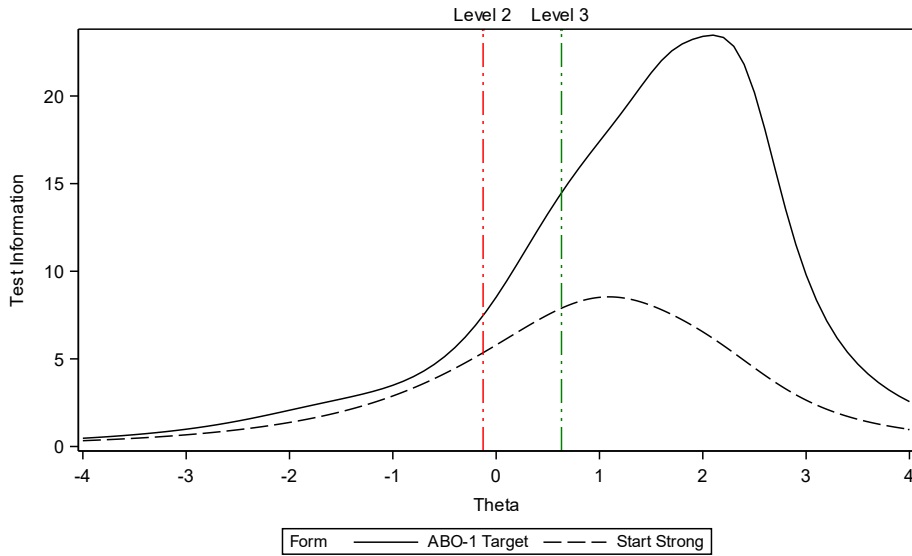


Figure 45. GEO01 Conditional Standard Error of Measurement Curves

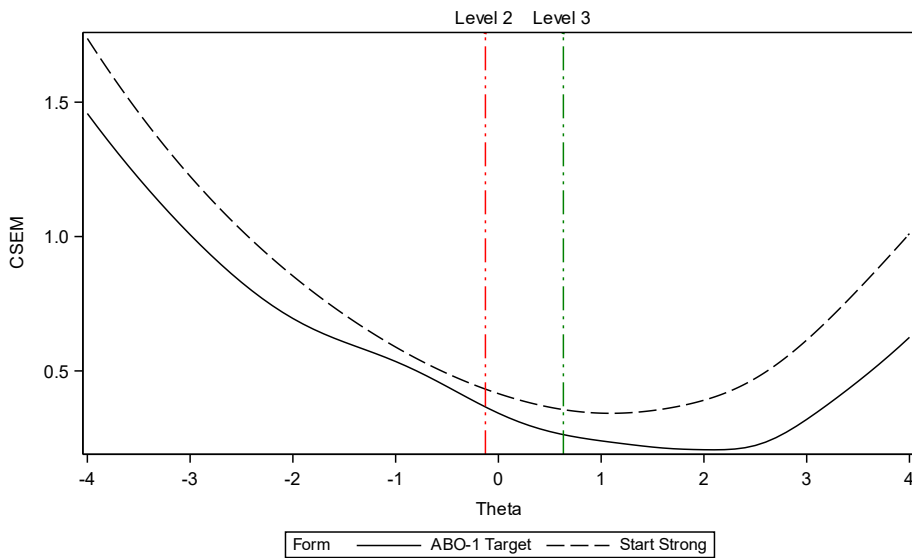




Figure 46. ALG02 Percent Correct Test Characteristic Curves

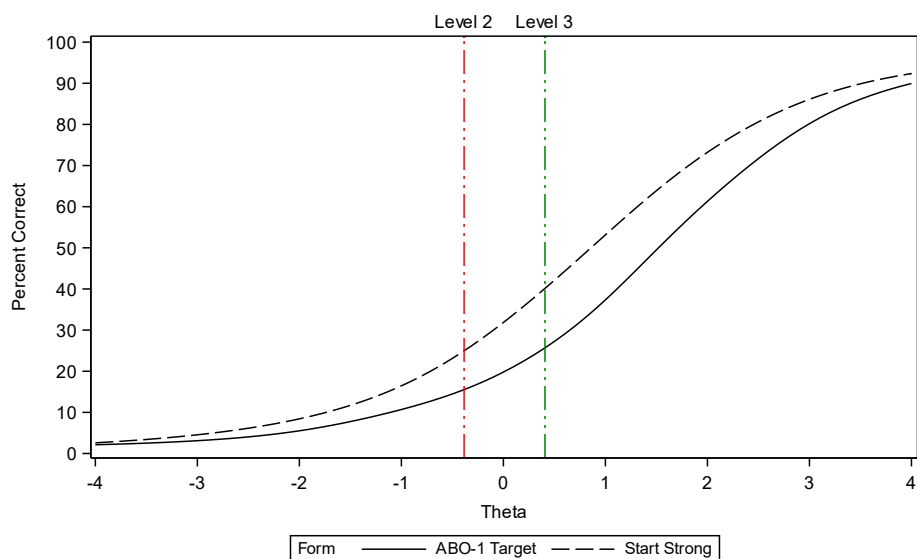


Figure 47. ALG02 Test Information Curves

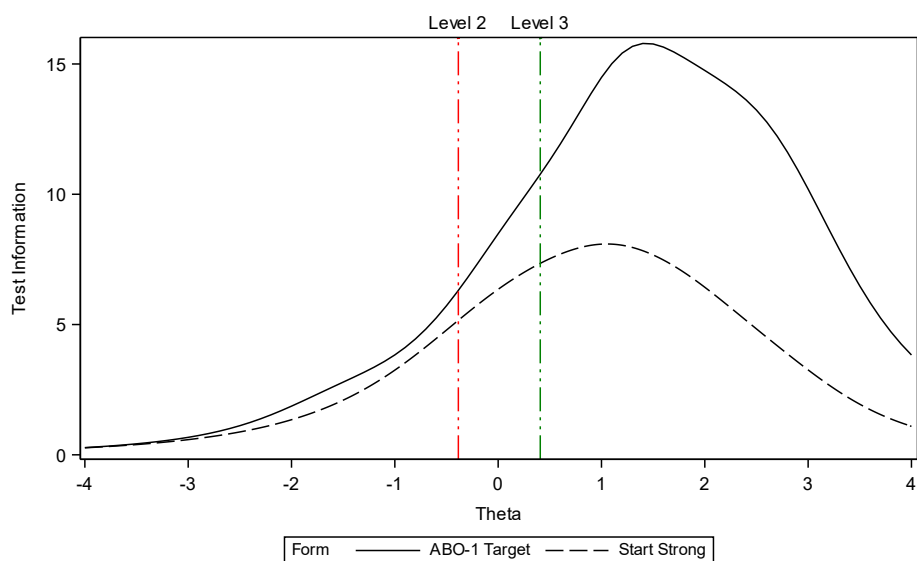
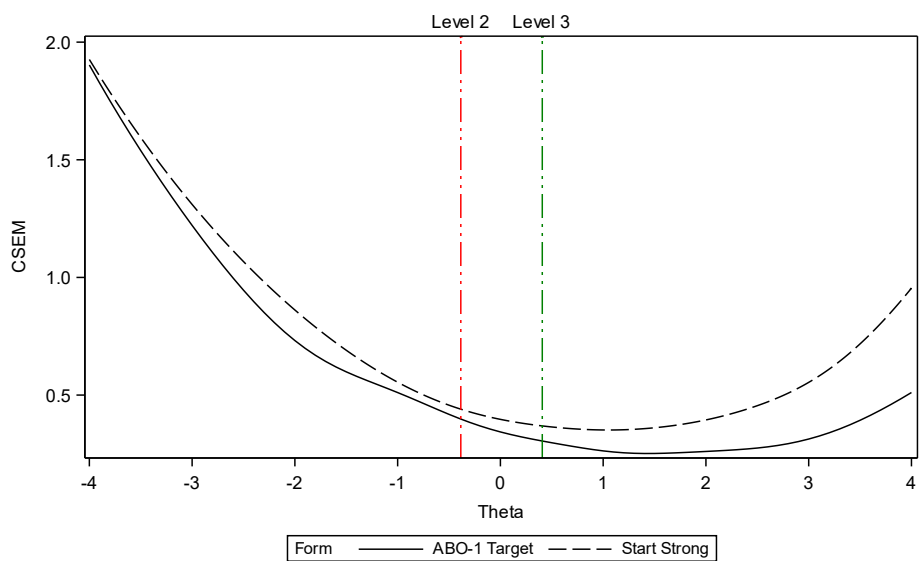




Figure 48. ALG02 Conditional Standard Error of Measurement Curves





## Appendix C. Valid Assessments

Form IDs are derived by combining several pieces of information (Table 39).

Table 35. Form ID Key

Position	Information	Codes
1 & 2	Year	19, 20, 21, 22, 23
3 & 4	Subject	A1 = Algebra 1, A2 = Algebra 2, GO = Geometry, EL = ELA, MT = Math
5 & 6	Grade	03, 04, 05... 10, 11, or HS for High School
7 & 8	Admin	SS = Start Strong
9	Accommodation/Mode	P = Paper O = Online T = Text-To-Speech C = Closed Caption R = Screen Reader N = Non-Screen Reader A = ASL H = Human Reader D = Base Accommodated
10	Language	E = English, S = Spanish
11 & 12	Core Form #	
13 & 14	Battery #	
15 & 16	Unit #	
17 & 18	FT Indicator	00 = non-FT, 01–99 = FT





## ELA

Table 36. ELA Valid Assessments by Form ID

Test Code	Form ID	Form ID N
ELA04	21EL04SSAE01000001	n.r.
ELA04	21EL04SSNE01000001	46
ELA04	21EL04SSRE01000001	n.r.
ELA04	21EL04SSTE01000001	92,802
ELA05	21EL05SSAE01000001	n.r.
ELA05	21EL05SSNE01000001	45
ELA05	21EL05SSRE01000001	n.r.
ELA05	21EL05SSTE01000001	94,345
ELA06	21EL06SSAE01000001	n.r.
ELA06	21EL06SSNE01000001	55
ELA06	21EL06SSRE01000001	n.r.
ELA06	21EL06SSTE01000001	95,486
ELA07	21EL07SSAE01000001	n.r.
ELA07	21EL07SSNE01000001	43
ELA07	21EL07SSRE01000001	n.r.
ELA07	21EL07SSTE01000001	96,495
ELA08	21EL08SSAE01000001	n.r.
ELA08	21EL08SSNE01000001	46
ELA08	21EL08SSRE01000001	n.r.
ELA08	21EL08SSTE01000001	99,679
ELA09	21EL09SSAE01000001	n.r.
ELA09	21EL09SSNE01000001	32
ELA09	21EL09SSRE01000001	n.r.
ELA09	21EL09SSTE01000001	98,932
ELA10	21EL10SSAE01000001	n.r.
ELA10	21EL10SSNE01000001	n.r.
ELA10	21EL10SSRE01000001	n.r.
ELA10	21EL10SSTE01000001	98,670



## Math

Table 37. Math Valid Assessments by Form ID

Test Code	Form ID	Form ID N
MAT04	21MA04SSAE01000001	n.r.
MAT04	21MA04SSHE01000001	384
MAT04	21MA04SSHS01000001	22
MAT04	21MA04SSNE01000001	n.r.
MAT04	21MA04SSRE01000001	n.r.
MAT04	21MA04SSTE01000001	89,734
MAT04	21MA04SSTS01000001	2,337
MAT05	21MA05SSAE01000001	n.r.
MAT05	21MA05SSHE01000001	308
MAT05	21MA05SSHS01000001	36
MAT05	21MA05SSNE01000001	n.r.
MAT05	21MA05SSRE01000001	n.r.
MAT05	21MA05SSTE01000001	90,194
MAT05	21MA05SSTS01000001	2,119
MAT06	21MA06SSAE01000001	n.r.
MAT06	21MA06SSHE01000001	314
MAT06	21MA06SSHS01000001	n.r.
MAT06	21MA06SSNE01000001	n.r.
MAT06	21MA06SSRE01000001	n.r.
MAT06	21MA06SSTE01000001	93,179
MAT06	21MA06SSTS01000001	2,019
MAT07	21MA07SSAE01000001	n.r.
MAT07	21MA07SSHE01000001	156
MAT07	21MA07SSHS01000001	n.r.
MAT07	21MA07SSNE01000001	n.r.
MAT07	21MA07SSRE01000001	n.r.
MAT07	21MA07SSTE01000001	89,873
MAT07	21MA07SSTS01000001	2,044



Test Code	Form ID	Form ID N
MAT08	21MA08SSAE01000001	n.r.
MAT08	21MA08SSHE01000001	97
MAT08	21MA08SSHS01000001	n.r.
MAT08	21MA08SSNE01000001	n.r.
MAT08	21MA08SSRE01000001	n.r.
MAT08	21MA08SSTE01000001	68,963
MAT08	21MA08SSTS01000001	1,741
ALG01	21A1HSSSAE01000001	n.r.
ALG01	21A1HSSSHE01000001	188
ALG01	21A1HSSSHS01000001	n.r.
ALG01	21A1HSSSNE01000001	n.r.
ALG01	21A1HSSSRE01000001	n.r.
ALG01	21A1HSSSTE01000001	100,318
ALG01	21A1HSSSTS01000001	2,325
GEO01	21GOHSSSAE01000001	n.r.
GEO01	21GOHSSSHE01000001	81
GEO01	21GOHSSSHS01000001	n.r.
GEO01	21GOHSSSNE01000001	n.r.
GEO01	21GOHSSSRE01000001	n.r.
GEO01	21GOHSSSTE01000001	93,710
GEO01	21GOHSSSTS01000001	1,847
ALG02	21A2HSSSAE01000001	n.r.
ALG02	21A2HSSSHE01000001	69
ALG02	21A2HSSSHS01000001	n.r.
ALG02	21A2HSSSNE01000001	n.r.
ALG02	21A2HSSSRE01000001	n.r.
ALG02	21A2HSSSTE01000001	84,307
ALG02	21A2HSSSTS01000001	1,000



## Appendix D. Population Demographics

### ELA

Table 38. ELA04 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,358	33.8%
Student with Disabilities	18,249	19.7%
English Learner	9,983	10.8%
Male	47,163	50.8%
Female	45,690	49.2%
American Indian/Alaska Native	186	0.2%
Asian	10,047	10.8%
Black/African American	13,178	14.2%
Hispanic/Latino	30,306	32.6%
Native Hawaiian/Pacific Islander	173	0.2%
White/Caucasian	35,793	38.5%
Two or More Races Reported	3,160	3.4%



Table 39. ELA05 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,573	33.4%
Student with Disabilities	19,374	20.5%
English Learner	8,365	8.9%
Male	48,114	51.0%
Female	46,285	49.0%
American Indian/Alaska Native	172	0.2%
Asian	10,466	11.1%
Black/African American	13,809	14.6%
Hispanic/Latino	30,285	32.1%
Native Hawaiian/Pacific Islander	183	0.2%
White/Caucasian	36,432	38.6%
Two or More Races Reported	3,039	3.2%

Table 40. ELA06 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,279	32.7%
Student with Disabilities	19,659	20.6%
English Learner	6,854	7.2%
Male	48,794	51.1%
Female	46,749	48.9%
American Indian/Alaska Native	166	0.2%



Demographic	N	Percent
Asian	10,325	10.8%
Black/African American	13,497	14.1%
Hispanic/Latino	30,716	32.1%
Native Hawaiian/Pacific Islander	189	0.2%
White/Caucasian	37,813	39.6%
Two or More Races Reported	2,841	3.0%

Table 41. ELA07 Demographics

Demographic	N	Percent
Economically Disadvantaged	30,920	32.0%
Student with Disabilities	19,694	20.4%
English Learner	6,158	6.4%
Male	49,349	51.1%
Female	47,164	48.8%
American Indian/Alaska Native	172	0.2%
Asian	10,419	10.8%
Black/African American	13,972	14.5%
Hispanic/Latino	30,501	31.6%
Native Hawaiian/Pacific Islander	179	0.2%
White/Caucasian	38,519	39.9%
Two or More Races Reported	2,778	2.9%

Table 42. ELA08 Demographics



Demographic	N	Percent
Economically Disadvantaged	31,454	31.5%
Student with Disabilities	20,360	20.4%
English Learner	5,658	5.7%
Male	51,208	51.3%
Female	48,483	48.6%
American Indian/Alaska Native	145	0.1%
Asian	10,548	10.6%
Black/African American	14,709	14.7%
Hispanic/Latino	31,377	31.5%
Native Hawaiian/Pacific Islander	206	0.2%
White/Caucasian	40,112	40.2%
Two or More Races Reported	2,644	2.7%

Table 43. ELA09 Demographics

Demographic	N	Percent
Economically Disadvantaged	29,600	29.9%
Student with Disabilities	18,848	19.0%
English Learner	5,328	5.4%
Male	50,405	50.9%
Female	48,455	49.0%
American Indian/Alaska Native	166	0.2%
Asian	10,593	10.7%



Demographic	N	Percent
Black/African American	14,352	14.5%
Hispanic/Latino	31,620	31.9%
Native Hawaiian/Pacific Islander	180	0.2%
White/Caucasian	39,571	40.0%
Two or More Races Reported	2,481	2.5%

Table 44. ELA10 Demographics

Demographic	N	Percent
Economically Disadvantaged	28,753	29.1%
Student with Disabilities	19,125	19.4%
English Learner	5,475	5.5%
Male	50,275	50.9%
Female	48,307	48.9%
American Indian/Alaska Native	144	0.1%
Asian	10,435	10.6%
Black/African American	13,767	13.9%
Hispanic/Latino	31,412	31.8%
Native Hawaiian/Pacific Islander	210	0.2%
White/Caucasian	40,381	40.9%
Two or More Races Reported	2,351	2.4%





## Math

Table 45. MAT04 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,172	33.7%
Student with Disabilities	18,181	19.7%
English Learner	10,562	11.4%
Male	47,126	51.0%
Female	45,358	49.0%
American Indian/Alaska Native	182	0.2%
Asian	10,083	10.9%
Black/African American	12,974	14.0%
Hispanic/Latino	30,366	32.8%
Native Hawaiian/Pacific Islander	175	0.2%
White/Caucasian	35,578	38.5%
Two or More Races Reported	3,117	3.4%

Table 46. MAT05 Demographics

Demographic	N	Percent
Economically Disadvantaged	30,882	33.3%
Student with Disabilities	19,245	20.8%
English Learner	8,888	9.6%
Male	47,589	51.3%
Female	45,083	48.6%



American Indian/Alaska Native	167	0.2%
Asian	10,407	11.2%
Black/African American	13,202	14.2%
Hispanic/Latino	29,844	32.2%
Native Hawaiian/Pacific Islander	177	0.2%
White/Caucasian	35,898	38.7%
Two or More Races Reported	2,965	3.2%



Table 47. MAT06 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,196	32.7%
Student with Disabilities	19,609	20.5%
English Learner	7,459	7.8%
Male	48,874	51.2%
Female	46,649	48.8%
American Indian/Alaska Native	164	0.2%
Asian	10,302	10.8%
Black/African American	13,361	14.0%
Hispanic/Latino	30,918	32.4%
Native Hawaiian/Pacific Islander	185	0.2%
White/Caucasian	37,780	39.5%
Two or More Races Reported	2,818	2.9%

Table 48. MAT07 Demographics

Demographic	N	Percent
Economically Disadvantaged	30,500	33.1%
Student with Disabilities	19,421	21.1%
English Learner	6,718	7.3%
Male	46,879	50.9%
Female	45,183	49.1%
American Indian/Alaska Native	162	0.2%



Demographic	N	Percent
Asian	8,259	9.0%
Black/African American	13,585	14.7%
Hispanic/Latino	30,294	32.9%
Native Hawaiian/Pacific Islander	163	0.2%
White/Caucasian	37,024	40.2%
Two or More Races Reported	2,603	2.8%

Table 49. MAT08 Demographics

Demographic	N	Percent
Economically Disadvantaged	26,450	37.3%
Student with Disabilities	17,889	25.3%
English Learner	5,548	7.8%
Male	36,655	51.8%
Female	34,135	48.2%
American Indian/Alaska Native	109	0.2%
Asian	3,837	5.4%
Black/African American	12,193	17.2%
Hispanic/Latino	26,006	36.7%
Native Hawaiian/Pacific Islander	135	0.2%
White/Caucasian	26,781	37.8%
Two or More Races Reported	1,764	2.5%



Table 50. ALG01 Demographics

Demographic	N	Percent
Economically Disadvantaged	31,359	30.5%
Student with Disabilities	20,575	20.0%
English Learner	7,224	7.0%
Male	53,284	51.8%
Female	49,481	48.1%
American Indian/Alaska Native	174	0.2%
Asian	10,405	10.1%
Black/African American	15,217	14.8%
Hispanic/Latino	34,116	33.2%
Native Hawaiian/Pacific Islander	208	0.2%
White/Caucasian	40,192	39.1%
Two or More Races Reported	2,545	2.5%

Table 51. GEO01 Demographics

Demographic	N	Percent
Economically Disadvantaged	28,009	29.3%
Student with Disabilities	18,606	19.5%
English Learner	5,868	6.1%
Male	49,006	51.2%
Female	46,529	48.6%
American Indian/Alaska Native	163	0.2%
Asian	9,480	9.9%



Demographic	N	Percent
Black/African American	13,623	14.2%
Hispanic/Latino	30,632	32.0%
Native Hawaiian/Pacific Islander	183	0.2%
White/Caucasian	39,181	41.0%
Two or More Races Reported	2,379	2.5%

Table 52. ALG02 Demographics

Demographic	N	Percent
Economically Disadvantaged	22,238	26.0%
Student with Disabilities	14,160	16.6%
English Learner	3,897	4.6%
Male	42,771	50.1%
Female	42,523	49.8%
American Indian/Alaska Native	124	0.1%
Asian	10,125	11.9%
Black/African American	10,735	12.6%
Hispanic/Latino	25,310	29.6%
Native Hawaiian/Pacific Islander	239	0.3%
White/Caucasian	36,867	43.2%
Two or More Races Reported	1,992	2.3%



# Appendix E. Classical Test Theory Results

## ELA

Table 53. ELA04 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
0313_A_Start	2	8	265	835	91,722	92,557	0.63	0.32	0.23
0314_A_Start	2	1	245	329	92,255	92,584	0.87	0.44	0.44
0315_A_Start	2	15	362	382	92,071	92,453	0.35	0.17	0.09
0818_A_Start	2	.	203	369	92,258	92,627	0.99	0.50	0.47
0820_A_Start	2	.	152	275	92,403	92,678	1.46	0.73	0.50
VF651767_Start	2	.	114	321	92,395	92,716	1.30	0.65	0.44
VF651815_Start	2	.	68	319	92,443	92,762	0.86	0.43	0.40
VF651834_Start	2	.	182	383	92,265	92,648	1.30	0.65	0.45
VF886878_Start	2	.	125	354	92,351	92,705	1.01	0.51	0.45
VH010150_Start	2	2	121	387	92,320	92,707	1.06	0.53	0.47

Table 54. ELA05 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
VF561248_Start	2	.	95	161	94,103	94,264	0.74	0.37	0.33
VF561249_Start	2	.	72	149	94,138	94,287	0.98	0.49	0.42
VF561251_Start	2	8	109	228	94,014	94,242	1.02	0.51	0.44
VF561252_Start	2	.	74	145	94,140	94,285	1.46	0.73	0.56
VF561682_Start	2	.	70	111	94,178	94,289	1.53	0.77	0.57
VF969172_Start	2	.	41	115	94,203	94,318	1.20	0.60	0.33
VF969178_Start	2	.	24	104	94,231	94,335	1.35	0.68	0.46
VF969190_Start	2	.	73	133	94,153	94,286	0.69	0.34	0.20



Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
VF969205_Start	2	1	45	140	94,173	94,313	1.02	0.51	0.46
VF979017_Start	2	.	76	156	94,127	94,283	0.73	0.37	0.30

Table 55. ELA06 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
2228_A_Start	2	.	14	96	95,396	95,492	1.09	0.55	0.32
2230_A_Start	2	.	41	78	95,387	95,465	1.52	0.76	0.44
2232_A_Start	2	1	55	141	95,309	95,450	0.87	0.44	0.31
2725_A_Start	2	.	46	139	95,321	95,460	0.92	0.46	0.39
2726_A_Start	2	.	39	135	95,332	95,467	0.97	0.48	0.45
C1343_Start	2	.	47	69	95,390	95,459	0.91	0.45	0.18
C1345_Start	2	.	100	88	95,318	95,406	1.01	0.51	0.27
C1346_Start	2	4	122	95	95,285	95,380	0.87	0.44	0.37
C1347_Start	2	.	97	98	95,311	95,409	0.70	0.35	0.35
C1351_Start	2	17	177	120	95,192	95,312	0.53	0.27	0.21

Table 56. ELA07 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
3169_A_Start	2	.	69	102	96,350	96,452	0.67	0.33	0.26
3170_A_Start	2	2	96	78	96,345	96,423	0.65	0.32	0.26
3174_A_Start	2	.	77	75	96,369	96,444	0.46	0.23	0.35
3873_A_Start	2	.	45	41	96,435	96,476	1.46	0.73	0.39
3874_A_Start	2	16	105	76	96,324	96,400	1.09	0.54	0.42





Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
3949_A_Start	2	.	80	81	96,360	96,441	0.86	0.43	0.40
VF633103_Start	2	.	6	52	96,463	96,515	0.85	0.43	0.32
VF633108_Start	2	1	33	57	96,430	96,487	1.04	0.52	0.27
VF633112_Start	2	.	53	136	96,332	96,468	0.64	0.32	0.34
VF633153_Start	2	.	43	84	96,394	96,478	1.36	0.68	0.49

Table 57. ELA08 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
4161_A_Start	2	.	46	36	99,619	99,655	1.31	0.66	0.48
4162_A_Start	2	.	62	61	99,578	99,639	0.74	0.37	0.49
4287_A_Start	2	.	28	43	99,630	99,673	1.28	0.64	0.37
4289_A_Start	2	.	40	37	99,624	99,661	1.15	0.57	0.40
4735_A_Start	2	.	57	46	99,598	99,644	1.46	0.73	0.54
4737_A_Start	2	1	83	43	99,574	99,617	1.15	0.57	0.51
4738_A_Start	2	9	72	329	99,291	99,620	1.47	0.73	0.46
4739_A_Start	2	.	13	73	99,615	99,688	0.91	0.45	0.44
4740_A_Start	2	.	62	71	99,568	99,639	0.92	0.46	0.42
4774_A_Start	2	.	54	43	99,604	99,647	1.06	0.53	0.40



Table 58. ELA09 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
5682_A_Start	2	.	36	38	98,861	98,899	1.04	0.52	0.08
5683_A_Start	2	.	27	54	98,854	98,908	1.11	0.55	0.37
5814_A_Start	2	.	13	56	98,866	98,922	0.92	0.46	0.23
5913_A_Start	2	.	36	102	98,797	98,899	1.28	0.64	0.49
VF654725_Start	2	9	39	51	98,836	98,887	1.20	0.60	0.43
VF654739_Start	2	.	38	62	98,835	98,897	0.81	0.41	0.31
VF654744_Start	2	.	47	73	98,815	98,888	0.84	0.42	0.32
VF654746_Start	2	.	43	44	98,848	98,892	1.09	0.54	0.42
VF654754_Start	2	1	50	45	98,839	98,884	1.15	0.58	0.47
VF654769_Start	2	.	41	70	98,824	98,894	0.88	0.44	0.37

Table 59. ELA10 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
VF623639_Start	2	.	21	44	98,607	98,651	0.90	0.45	0.30
VF623714_Start	2	.	55	52	98,565	98,617	1.22	0.61	0.38
VF623726_Start	2	.	52	43	98,577	98,620	1.17	0.58	0.36
VF647991_Start	2	.	43	33	98,596	98,629	1.07	0.54	0.39
VF884242_Start	2	1	64	45	98,562	98,607	1.10	0.55	0.41
VF884252_Start	2	.	43	44	98,585	98,629	1.46	0.73	0.46
VF884339_Start	2	4	88	40	98,540	98,580	1.16	0.58	0.45
VF884428_Start	2	.	61	47	98,564	98,611	0.92	0.46	0.19
VF884437_Start	2	1	62	43	98,566	98,609	0.89	0.44	0.33
VF884495_Start	2	1	53	47	98,571	98,618	1.11	0.56	0.37



# Math

Table 60. MAT04 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
0062-M00384Y_Start	2	20	1,187	1,430	87,126	88,556	0.92	0.46	0.63
M00025P_Start	1	229	1,176	.	88,358	88,358	0.48	0.48	0.45
M00043_Start	1	7	573	.	89,183	89,183	0.54	0.54	0.51
M00346_Start	1	.	229	.	89,534	89,534	0.72	0.72	0.48
M01071_Start	1	1	1,141	.	88,621	88,621	0.50	0.50	0.61
M02243_Start	1	.	382	.	89,381	89,381	0.63	0.63	0.64
M02369_Start	1	3	722	.	89,038	89,038	0.43	0.43	0.62
M02431_Start	1	.	331	.	89,432	89,432	0.64	0.64	0.60
M03179_Start	1	2	574	.	89,187	89,187	0.34	0.34	0.58
M300165_Start	1	.	161	.	89,602	89,602	0.69	0.69	0.63
VF442827_Start	1	333	1,074	.	88,356	88,356	0.67	0.67	0.57
VF524247_Start	1	1	418	.	89,344	89,344	0.43	0.43	0.62
VF524248_Start	1	4	1,305	.	88,454	88,454	0.45	0.45	0.63
VF556095_Start	1	2	820	.	88,941	88,941	0.33	0.33	0.48
VF564965_Start	1	.	885	.	88,878	88,878	0.22	0.22	0.56
VF654116_Start	2	1	596	213	88,953	89,166	0.86	0.43	0.64
VF819705_Start	1	.	424	.	89,339	89,339	0.68	0.68	0.63
VF822882_Start	1	.	275	.	89,488	89,488	0.72	0.72	0.63
VF885478_Start	1	1	526	.	89,236	89,236	0.22	0.22	0.52
VF909877_Start	2	2	1,656	421	87,684	88,105	0.61	0.31	0.69
VH094028_Start	1	1	643	.	89,119	89,119	0.61	0.61	0.66



Table 61. MAT05 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
0118-M00640P_Start	2	5	1,199	468	88,538	89,006	1.12	0.56	0.65
M00945_Start	1	1	2,320	.	87,889	87,889	0.50	0.50	0.59
M01045P_Start	1	1	122	.	90,087	90,087	0.64	0.64	0.51
M01232_Start	1	440	1,714	.	88,056	88,056	0.70	0.70	0.37
M01720P_Start	1	7	975	.	89,228	89,228	0.40	0.40	0.59
M03056_Start	1	2	339	.	89,869	89,869	0.49	0.49	0.60
M03194_Start	1	3	268	.	89,939	89,939	0.59	0.59	0.38
M03302_Start	1	4	764	.	89,442	89,442	0.43	0.43	0.61
M03351_Start	1	34	3,219	.	86,957	86,957	0.33	0.33	0.62
M03658_Start	1	1	242	.	89,967	89,967	0.55	0.55	0.47
M04106_Start	1	2	3,416	.	86,792	86,792	0.36	0.36	0.65
M20627_Start	1	9	1,402	.	88,799	88,799	0.46	0.46	0.46
M400122_Start	1	2	805	.	89,403	89,403	0.63	0.63	0.59
M400294P_Start	1	.	315	.	89,895	89,895	0.63	0.63	0.47
VF498103_Start	1	3	1,140	174	88,893	89,067	0.33	0.33	0.54
VF524236_Start	1	4	4,789	647	84,770	85,417	0.32	0.32	0.62
VF643199_Start	2	547	3,197	648	85,818	86,466	1.19	0.60	0.69
VF646344_Start	1	8	1,083	.	89,119	89,119	0.43	0.43	0.58
VF651703_Start	1	.	2,209	.	88,001	88,001	0.19	0.19	0.55
VF937828_Start	1	.	313	.	89,897	89,897	0.60	0.60	0.54
VH033907_Start	1	5	718	.	89,487	89,487	0.64	0.64	0.62
VH059749_Start	1	.	321	.	89,889	89,889	0.65	0.65	0.55
VH080328_Start	1	1	3,425	760	86,024	86,784	0.45	0.45	0.64



Table 62. MAT06 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
0368-M01522_Start	2	1	519	464	92,208	92,672	0.88	0.44	0.53
4123-M03565_Start	2	7	1,523	1,509	90,153	91,662	0.55	0.28	0.52
M00154_start	1	.	106	.	93,086	93,086	0.86	0.86	0.22
M00174_Start	1	.	200	.	92,992	92,992	0.39	0.39	0.67
M00207_Start	1	.	305	.	92,887	92,887	0.48	0.48	0.64
M01017_Start	1	1	377	.	92,814	92,814	0.45	0.45	0.66
M01763_Start	1	1	450	.	92,741	92,741	0.36	0.36	0.68
M01824_Start	1	4	295	.	92,893	92,893	0.43	0.43	0.69
M02098_Start	1	.	269	.	92,923	92,923	0.75	0.75	0.47
M02454_Start	1	2	248	.	92,942	92,942	0.80	0.80	0.34
M03203P_Start	1	.	117	.	93,075	93,075	0.43	0.43	0.53
M03345P_Start	1	1	119	.	93,072	93,072	0.69	0.69	0.48
VF441143_Start	1	353	748	.	92,091	92,091	0.70	0.70	0.55
VF525879_Start	1	2	550	.	92,640	92,640	0.31	0.31	0.59
VF536806_Start	1	1	410	.	92,781	92,781	0.50	0.50	0.45
VF563088_Start	1	.	997	.	92,195	92,195	0.61	0.61	0.50
VF641685_Start	1	.	466	.	92,726	92,726	0.52	0.52	0.47
VF819429_Start	1	1	612	.	92,579	92,579	0.54	0.54	0.61
VF886110_Start	1	2	291	.	92,899	92,899	0.62	0.62	0.47
VH006453_Start	1	.	90	.	93,102	93,102	0.63	0.63	0.50
VH061238_Start	1	240	1,085	.	91,867	91,867	0.39	0.39	0.57
VH120213_Start	1	4	1,249	.	91,939	91,939	0.47	0.47	0.63
VH129515_Start	1	.	1,650	.	91,542	91,542	0.35	0.35	0.53



Table 63. MAT07 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
1030-M20255_Start	2	53	1,461	895	87,508	88,403	0.79	0.40	0.71
M20252_Start	1	.	236	.	89,681	89,681	0.70	0.70	0.58
M20645_Start	1	2	226	.	89,689	89,689	0.50	0.50	0.47
M20932_Start	1	1	840	.	89,076	89,076	0.53	0.53	0.65
M21276_Start	1	.	146	.	89,771	89,771	0.66	0.66	0.54
M21747_Start	1	.	62	.	89,855	89,855	0.71	0.71	0.54
M25339P_Start	1	.	68	.	89,849	89,849	0.52	0.52	0.60
M25356_Start	2	175	1,379	.	88,363	88,363	0.87	0.44	0.70
M25450P_Start	1	2	296	.	89,619	89,619	0.48	0.48	0.41
M25571_Start	1	.	248	.	89,669	89,669	0.73	0.73	0.50
VF523880_Start	1	.	604	.	89,313	89,313	0.44	0.44	0.70
VF524099_Start	1	3	956	.	88,958	88,958	0.31	0.31	0.56
VF524261_Start	1	.	90	.	89,827	89,827	0.16	0.16	0.45
VF541558_Start	1	4	465	.	89,448	89,448	0.34	0.34	0.54
VF646597_Start	1	.	153	.	89,764	89,764	0.71	0.71	0.46
VF654570_Start	1	5	736	.	89,176	89,176	0.37	0.37	0.55
VF864578_Start	1	.	135	.	89,782	89,782	0.75	0.75	0.45
VF904473_Start	1	.	486	.	89,431	89,431	0.45	0.45	0.68
VH013412_Start	2	.	611	68	89,238	89,306	1.18	0.59	0.65
VH029405_Start	1	.	292	.	89,625	89,625	0.58	0.58	0.53
VH082946_Start	1	10	368	.	89,539	89,539	0.49	0.49	0.64
VH146432_Start	1	.	61	.	89,856	89,856	0.81	0.81	0.50



Table 64. MAT08 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
M20097_Start	1	.	166	.	68,864	68,864	0.56	0.56	0.57
M20104_Start	2	6	1,525	.	67,499	67,499	0.85	0.43	0.61
M20304_Start	1	.	227	.	68,803	68,803	0.50	0.50	0.53
M20841_Start	1	6	223	.	68,801	68,801	0.57	0.57	0.36
M21535_Start	1	1	147	.	68,882	68,882	0.27	0.27	0.29
M21827_Start	1	.	25	.	69,005	69,005	0.61	0.61	0.47
M21895_Start	1	.	238	.	68,792	68,792	0.42	0.42	0.17
M22138_Start	1	.	24	.	69,006	69,006	0.48	0.48	0.37
M25176_Start	1	.	242	.	68,788	68,788	0.45	0.45	0.62
M25283_Start	1	.	248	.	68,782	68,782	0.23	0.23	0.35
M25482_Start	1	5	248	.	68,777	68,777	0.32	0.32	0.56
VF486747_Start	1	.	119	.	68,911	68,911	0.17	0.17	0.45
VF492180_Start	1	.	152	.	68,878	68,878	0.18	0.18	0.52
VF536043_Start	1	5	598	14	68,413	68,427	0.45	0.45	0.62
VF647112_Start	1	10	714	.	68,306	68,306	0.54	0.54	0.63
VF823888_Start	1	1	188	.	68,841	68,841	0.47	0.47	0.52
VF888811_Start	2	287	1,672	927	66,144	67,071	0.24	0.12	0.53
VF904877_Start	1	.	172	8	68,850	68,858	0.39	0.39	0.50
VF907675_Start	2	135	1,920	272	66,703	66,975	0.15	0.08	0.49
VH252719_Start	1	.	885	.	68,145	68,145	0.45	0.45	0.64



Table 65. ALG01 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
1095-M20627_Start	2	17	4,283	948	95,082	96,030	0.16	0.08	0.49
M20182_Start	1	.	397	.	99,933	99,933	0.44	0.44	0.27
M20614_Start	1	.	115	.	100,215	100,215	0.54	0.54	0.24
M21169_Start	1	378	3,179	.	96,773	96,773	0.11	0.11	0.55
M21596_Start	1	.	1,006	.	99,324	99,324	0.21	0.21	0.22
M21835_Start	1	6	254	.	100,070	100,070	0.40	0.40	0.33
M22324_Start	1	.	242	.	100,088	100,088	0.64	0.64	0.28
M22474_Start	1	.	204	.	100,126	100,126	0.49	0.49	0.21
M25297_Start	1	2	1,441	.	98,887	98,887	0.44	0.44	0.48
VF523722_Start	1	.	1,441	.	98,889	98,889	0.37	0.37	0.32
VF524219_Start	1	.	348	.	99,982	99,982	0.22	0.22	0.34
VF554929_Start	1	.	2,700	104	97,526	97,630	0.22	0.22	0.51
VF647000_Start	1	.	1,142	.	99,188	99,188	0.36	0.36	0.50
VF652582_Start	1	.	1,643	.	98,687	98,687	0.15	0.15	0.53
VF802006_Start	1	1	161	.	100,168	100,168	0.39	0.39	0.36
VF865913_Start	1	2	202	.	100,126	100,126	0.52	0.52	0.30
VF905705_Start	1	.	152	.	100,178	100,178	0.23	0.23	0.12
VH000116_Start	1	3	408	.	99,919	99,919	0.41	0.41	0.23
VH006575_Start	1	12	742	.	99,576	99,576	0.41	0.41	0.25
VH007069_Start	1	.	193	.	100,137	100,137	0.45	0.45	0.37
VH007830_Start	1	.	106	.	100,224	100,224	0.34	0.34	0.52
VH074487_Start	2	5	1,421	2,666	96,238	98,904	0.53	0.27	0.51
VH223158_Start	1	689	2,577	.	97,064	97,064	0.07	0.07	0.40





Table 66. GEO01 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
1095-M20627_Start	2	4	3,953	832	88,934	89,766	0.20	0.10	0.54
1116-M20728_Start	2	3	450	2,169	91,101	93,270	0.87	0.44	0.55
M20384_Start	1	267	1,768	.	91,688	91,688	0.08	0.08	0.39
M20614_Start	1	.	73	.	93,650	93,650	0.63	0.63	0.34
M20864_Start	1	21	3,432	.	90,270	90,270	0.04	0.04	0.44
M21169_Start	1	23	2,745	.	90,955	90,955	0.16	0.16	0.63
M21596_Start	1	.	564	.	93,159	93,159	0.22	0.22	0.32
M21835_Start	1	1	156	.	93,566	93,566	0.41	0.41	0.31
M22324_Start	1	4	148	.	93,571	93,571	0.67	0.67	0.31
M22474_Start	1	.	75	.	93,648	93,648	0.53	0.53	0.25
M25297_Start	1	4	1,068	.	92,651	92,651	0.52	0.52	0.51
VF523722_Start	1	.	990	.	92,733	92,733	0.49	0.49	0.38
VF524219_Start	1	.	198	.	93,525	93,525	0.25	0.25	0.50
VF643560_Start	1	.	612	.	93,111	93,111	0.17	0.17	0.50
VF652582_Start	1	.	1,176	.	92,547	92,547	0.32	0.32	0.64
VF654722_Start	1	.	43	.	93,680	93,680	0.46	0.46	0.56
VF802006_Start	1	.	93	.	93,630	93,630	0.47	0.47	0.47
VH000116_Start	1	.	164	.	93,559	93,559	0.38	0.38	0.24
VH006575_Start	1	2	354	.	93,367	93,367	0.48	0.48	0.37
VH007830_Start	1	.	66	.	93,657	93,657	0.35	0.35	0.51
VH009326_Start	2	.	96	124	93,503	93,627	1.03	0.51	0.47
VH010947_Start	1	1	142	.	93,580	93,580	0.59	0.59	0.17
VH074487_Start	2	1	976	2,278	90,468	92,746	0.64	0.32	0.60
VH223158_Start	1	139	2,299	.	91,285	91,285	0.14	0.14	0.52



Table 67. ALG02 Item Analyses

Item UIN	Maximum Points	Unvisited	Visited	Answer Incomplete	Answered	Total N	Item Mean	P value	Item Total Correlation
2023-M40338_Start	2	5	473	627	83,213	83,840	0.93	0.47	0.38
2783-M44205_Start	2	.	318	365	83,635	84,000	0.51	0.26	0.32
M40097_Start	1	12	815	.	83,491	83,491	0.37	0.37	0.16
M40223_Start	1	.	35	.	84,283	84,283	0.41	0.41	0.51
M40291_Start	1	.	135	.	84,183	84,183	0.43	0.43	0.48
M40431_Start	1	.	233	.	84,085	84,085	0.66	0.66	0.32
M40433_Start	1	1	255	.	84,062	84,062	0.43	0.43	0.30
M40566_Start	1	.	1,543	155	82,620	82,775	0.33	0.33	0.60
M40598_Start	1	.	59	.	84,259	84,259	0.54	0.54	0.48
M41438_Start	1	9	2,902	.	81,407	81,407	0.22	0.22	0.53
M43284_Start	1	.	129	.	84,189	84,189	0.41	0.41	0.36
M43294_Start	1	123	1,274	.	82,921	82,921	0.43	0.43	0.57
VF580101_Start	2	1	2,399	569	81,349	81,918	0.39	0.19	0.63
VF814812_Start	1	1	4,315	352	79,650	80,002	0.04	0.04	0.34
VF820513_Start	1	.	837	.	83,481	83,481	0.35	0.35	0.58
VF888002_Start	1	.	82	.	84,236	84,236	0.14	0.14	0.46
VF906356_Start	1	12	403	.	83,903	83,903	0.44	0.44	0.44
VH001714_Start	1	1	38	.	84,279	84,279	0.60	0.60	0.35
VH004589_Start	1	1	63	.	84,254	84,254	0.61	0.61	0.40
VH018281_Start	1	3	416	.	83,899	83,899	0.46	0.46	0.29
VH024229_Start	2	307	1,012	240	82,759	82,999	1.07	0.54	0.48
VH104212_Start	1	2	368	.	83,948	83,948	0.24	0.24	0.47
VH223193_Start	1	4	1,293	.	83,021	83,021	0.17	0.17	0.51



## Appendix F. Differential Item Functioning Results

### ELA

Table 68. ELA04 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	1	10.00	9	90.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 69. ELA05 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.



Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	10	100.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 70. ELA06 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	1	10.00	9	90.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	1	10.00	9	90.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 71. ELA07 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.



Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	10	100.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 72. ELA08 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	10	100.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 73. ELA09 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.



Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	9	90.00	1	10.00	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	1	10.00	9	90.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.

Table 74. ELA10 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	10	100.00	.	.	.	.
White vs Black/African American	.	.	.	.	10	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	10	100.00	.	.	.	.
White vs Asian	.	.	.	.	10	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	10	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	10	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	10	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	10	100.00	.	.	.	.
Not English Learner vs English Learner	1	10.00	.	.	9	90.00	.	.	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	10	100.00	.	.	.	.



# Math

Table 75. MAT04 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	20	95.24	1	4.76	.	.
White vs Black/African American	.	.	2	9.52	17	80.95	1	4.76	1	4.76
White vs Hispanic/Latino	.	.	.	.	20	95.24	.	.	1	4.76
White vs Asian	.	.	1	4.76	19	90.48	.	.	1	4.76
White vs American Indian/Alaska Native	1	4.76	2	9.52	17	80.95	1	4.76	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	21	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	21	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	21	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	19	90.48	1	4.76	1	4.76
Students without Disabilities vs Students with Disabilities	.	.	.	.	20	95.24	1	4.76	.	.

Table 76. MAT05 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	1	4.35	20	86.96	2	8.70	.	.
White vs Black/African American	.	.	.	.	23	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	23	100.00	.	.	.	.
White vs Asian	.	.	1	4.35	22	95.65	.	.	.	.
White vs American Indian/Alaska Native	.	.	1	4.35	22	95.65	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	22	95.65	1	4.35	.	.
White vs Multiple Race Selected	.	.	.	.	23	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	23	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	22	95.65	1	4.35	.	.



Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Students without Disabilities vs Students with Disabilities	2	8.70	.	.	20	86.96	1	4.35	.	.

Table 77. MAT06 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	20	86.96	3	13.04	.	.
White vs Black/African American	.	.	.	.	22	95.65	1	4.35	.	.
White vs Hispanic/Latino	.	.	.	.	23	100.00	.	.	.	.
White vs Asian	.	.	1	4.35	22	95.65	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	22	95.65	.	.	1	4.35
White vs Native Hawaiian/Pacific Islander	.	.	1	4.35	20	86.96	2	8.70	.	.
White vs Multiple Race Selected	.	.	.	.	23	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	23	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	22	95.65	1	4.35	.	.
Students without Disabilities vs Students with Disabilities	1	4.35	.	.	22	95.65	.	.	.	.

Table 78. MAT07 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	19	86.36	2	9.09	1	4.55
White vs Black/African American	.	.	.	.	21	95.45	1	4.55	.	.
White vs Hispanic/Latino	.	.	.	.	22	100.00	.	.	.	.
White vs Asian	.	.	.	.	22	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	22	100.00	.	.	.	.





Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
White vs Native Hawaiian/Pacific Islander	.	.	1	4.55	21	95.45	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	22	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	22	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	20	90.91	1	4.55	1	4.55
Students without Disabilities vs Students with Disabilities	.	.	.	.	22	100.00	.	.	.	.

Table 79. MAT08 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	2	10.00	15	75.00	2	10.00	1	5.00
White vs Black/African American	.	.	.	.	20	100.00	.	.	.	.
White vs Hispanic/Latino	.	.	.	.	20	100.00	.	.	.	.
White vs Asian	.	.	1	5.00	19	95.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	1	5.00	18	90.00	.	.	1	5.00
White vs Native Hawaiian/Pacific Islander	.	.	1	5.00	18	90.00	.	.	1	5.00
White vs Multiple Race Selected	.	.	.	.	20	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	20	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	19	95.00	.	.	1	5.00
Students without Disabilities vs Students with Disabilities	1	5.00	.	.	19	95.00	.	.	.	.

Table 80. ALG01 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	23	100.00	.	.	.	.
White vs Black/African American	.	.	1	4.35	20	86.96	2	8.70	.	.



Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
White vs Hispanic/Latino	.	.	.	.	23	100.00	.	.	.	.
White vs Asian	.	.	2	8.70	21	91.30	.	.	.	.
White vs American Indian/Alaska Native	.	.	.	.	23	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	23	100.00	.	.	.	.
White vs Multiple Race Selected	.	.	.	.	23	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	23	100.00	.	.	.	.
Not English Learner vs English Learner	.	.	.	.	20	86.96	2	8.70	1	4.35
Students without Disabilities vs Students with Disabilities	.	.	.	.	22	95.65	1	4.35	.	.

Table 81. GEO01 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	.	.	.	.	22	91.67	1	4.17	1	4.17
White vs Black/African American	.	.	.	.	21	87.50	3	12.50	.	.
White vs Hispanic/Latino	.	.	.	.	23	95.83	1	4.17	.	.
White vs Asian	.	.	.	.	24	100.00	.	.	.	.
White vs American Indian/Alaska Native	.	.	2	8.33	21	87.50	1	4.17	.	.
White vs Native Hawaiian/Pacific Islander	.	.	1	4.17	22	91.67	.	.	1	4.17
White vs Multiple Race Selected	.	.	.	.	24	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	22	91.67	2	8.33	.	.
Not English Learner vs English Learner	.	.	.	.	19	79.17	4	16.67	1	4.17
Students without Disabilities vs Students with Disabilities	.	.	.	.	24	100.00	.	.	.	.



Table 82. ALG02 DIF Analyses

Comparison	C- Count	C- %	B- Count	B- %	A Count	A %	B+ Count	B+ %	C+ Count	C+ %
Male vs Female	1	4.17	.	.	21	87.50	1	4.17	1	4.17
White vs Black/African American	.	.	.	.	23	95.83	1	4.17	.	.
White vs Hispanic/Latino	.	.	.	.	24	100.00	.	.	.	.
White vs Asian	1	4.17	2	8.33	20	83.33	1	4.17	.	.
White vs American Indian/Alaska Native	.	.	.	.	24	100.00	.	.	.	.
White vs Native Hawaiian/Pacific Islander	.	.	.	.	23	95.83	1	4.17	.	.
White vs Multiple Race Selected	.	.	.	.	24	100.00	.	.	.	.
Not Economically Disadvantage vs Economically Disadvantaged	.	.	.	.	24	100.00	.	.	.	.
Not English Learner vs English Learner	1	4.17	1	4.17	20	83.33	2	8.33	.	.
Students without Disabilities vs Students with Disabilities	.	.	.	.	24	100.00	.	.	.	.



# Appendix G. IRT Calibration Results

## ELA

Figure 49. ELA04 Parameter A Comparison

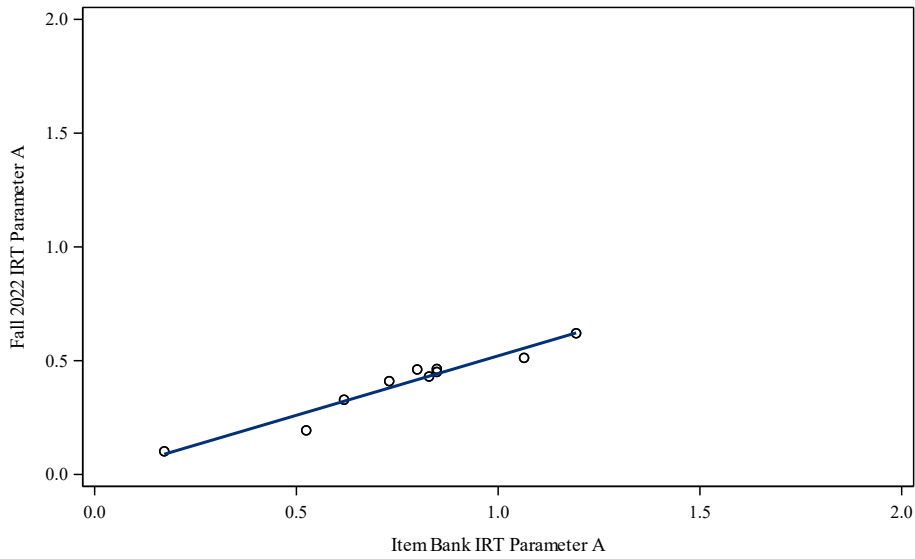


Figure 50. ELA04 Parameter B Comparison

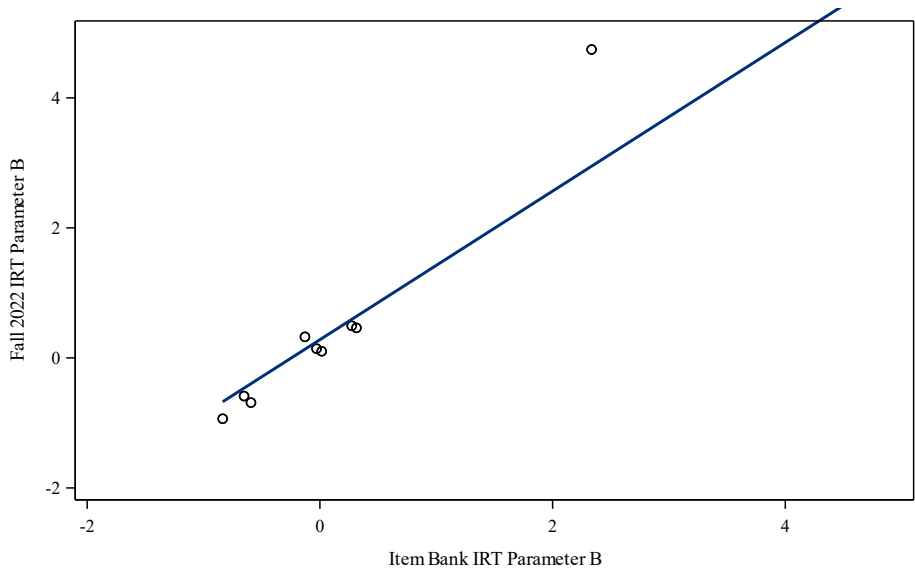




Figure 51. ELA05 Parameter A Comparison

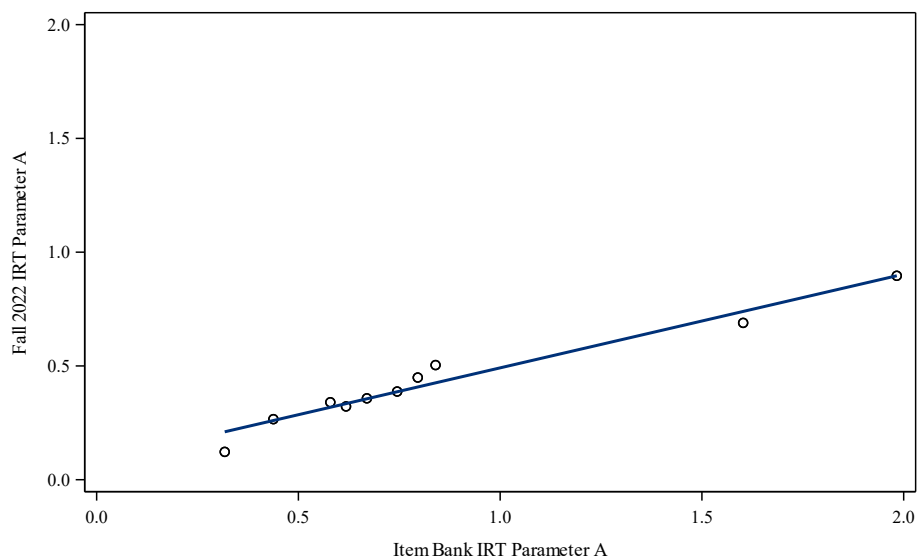


Figure 52. ELA05 Parameter B Comparison

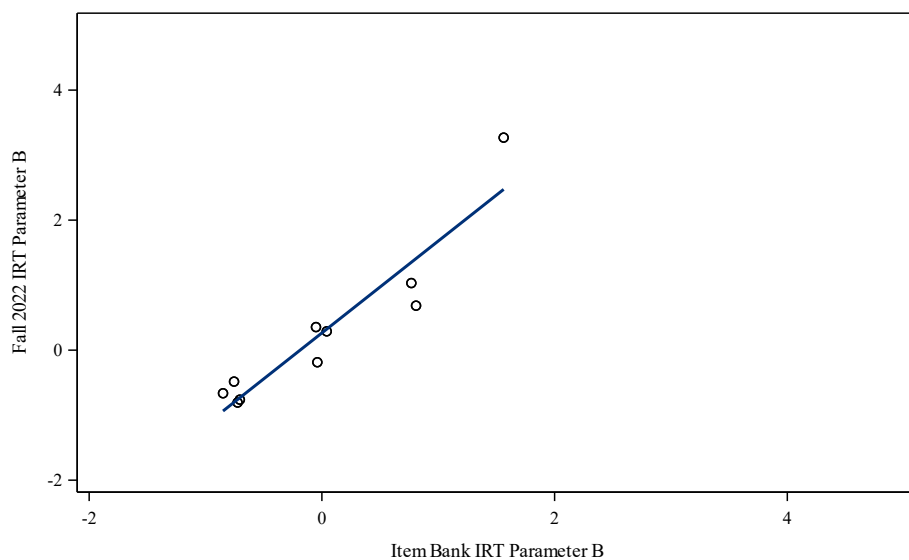




Figure 53. ELA06 Parameter A Comparison

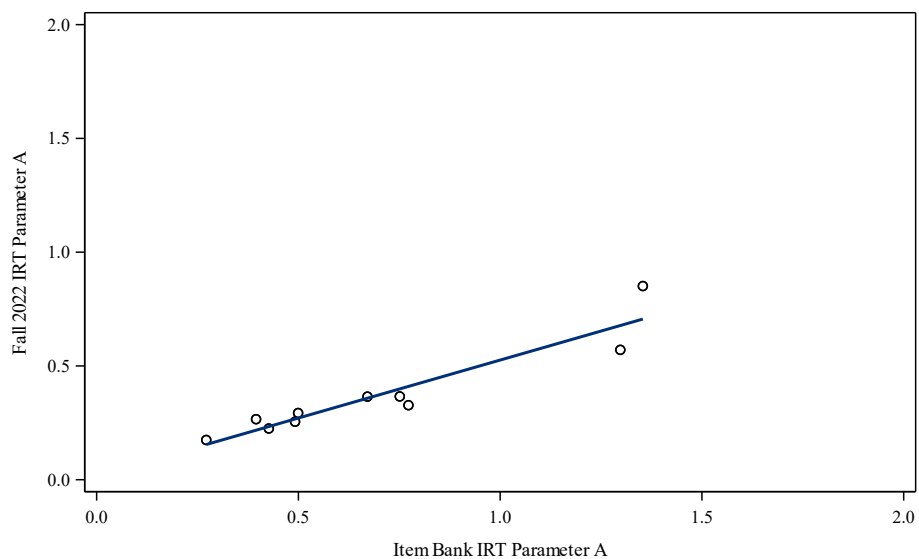


Figure 54. ELA06 Parameter B Comparison

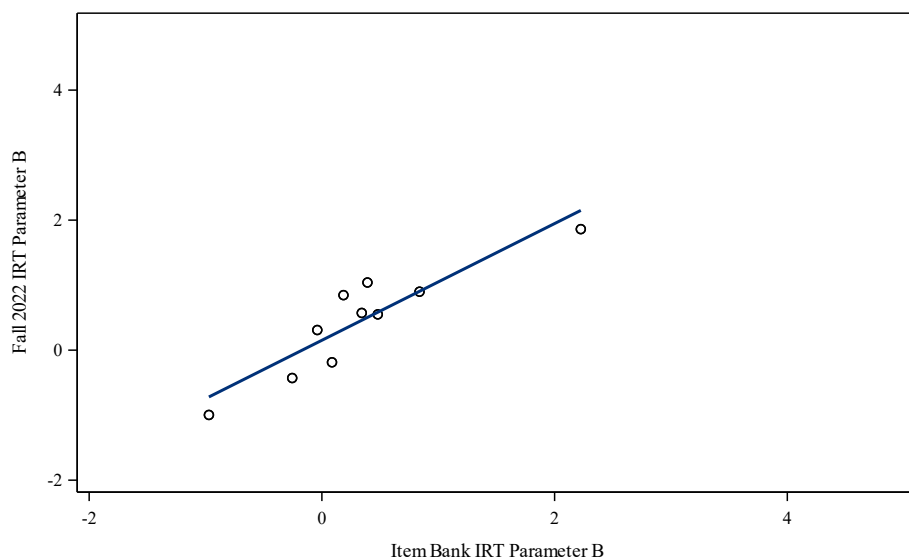




Figure 55. ELA07 Parameter A Comparison

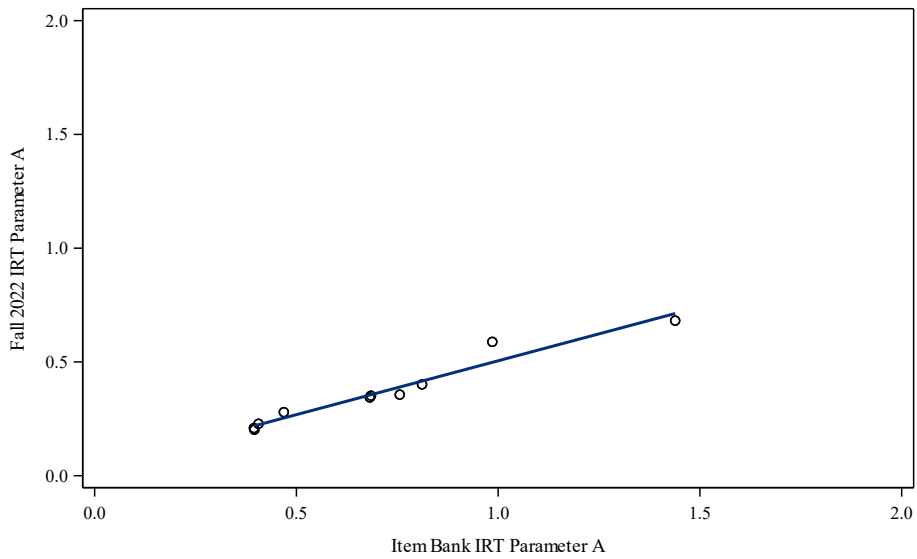


Figure 56. ELA07 Parameter B Comparison

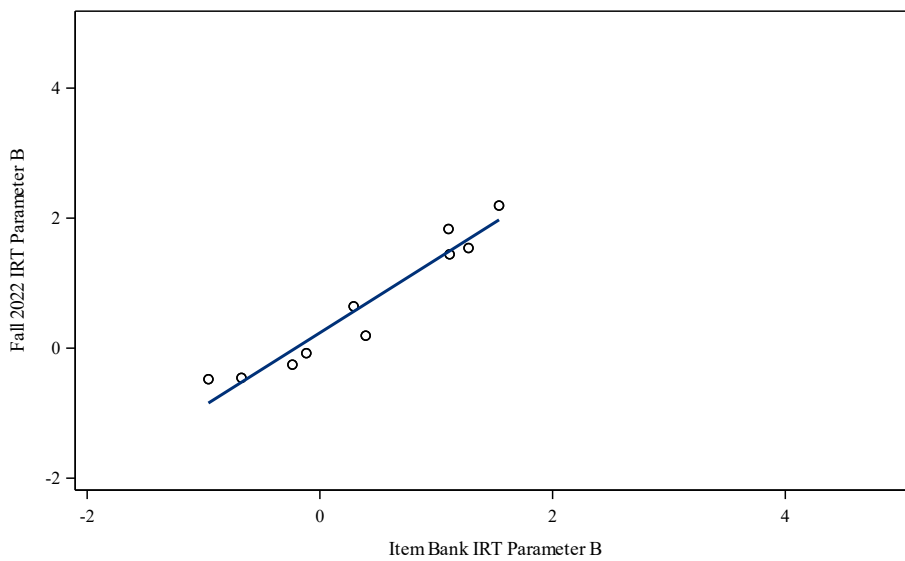




Figure 57. ELA08 Parameter A Comparison

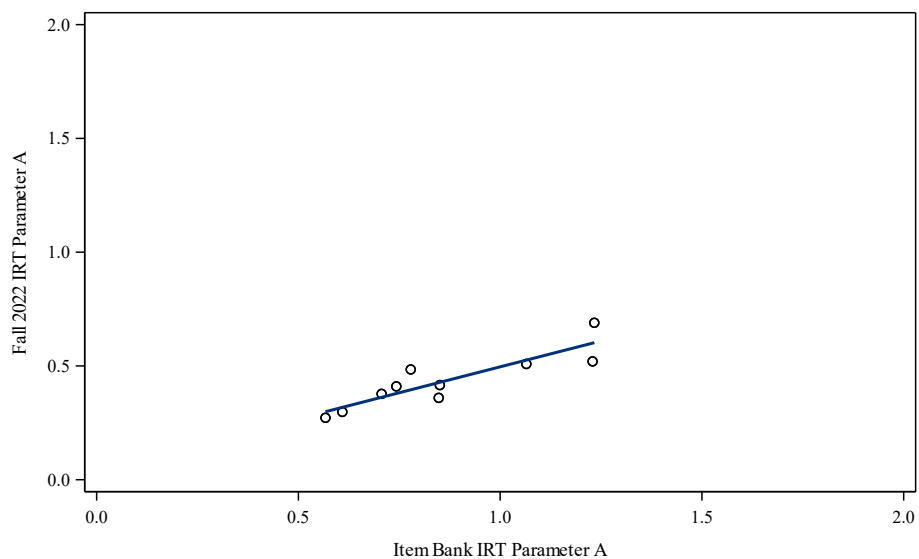


Figure 58. ELA08 Parameter B Comparison

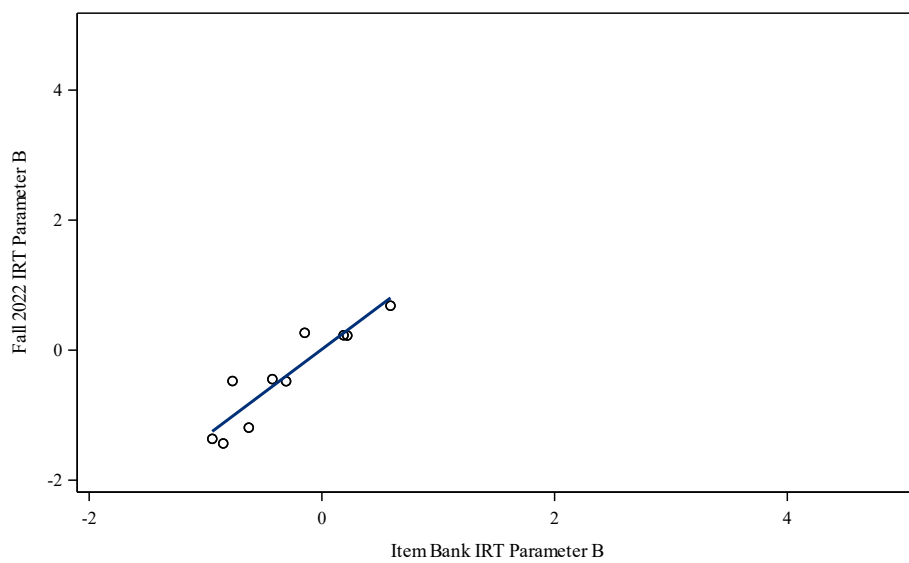






Figure 59. ELA09 Parameter A Comparison

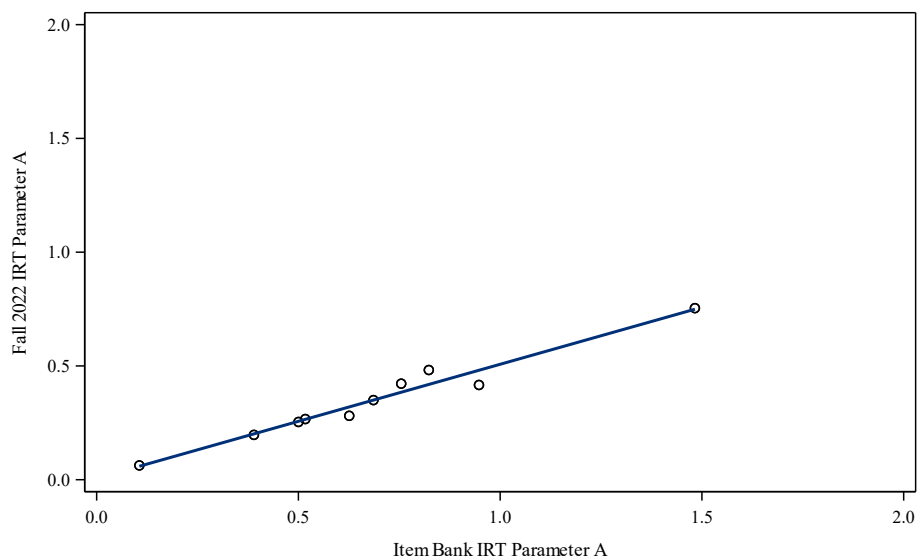


Table 83. ALG02 DIF Analyses

Figure 60. ELA09 Parameter B Comparison

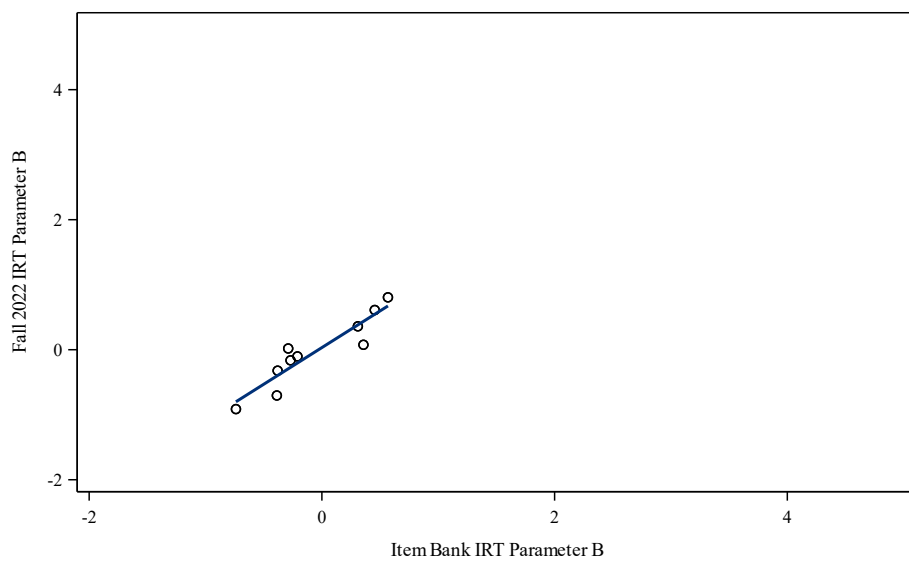




Figure 61. ELA10 Parameter A Comparison

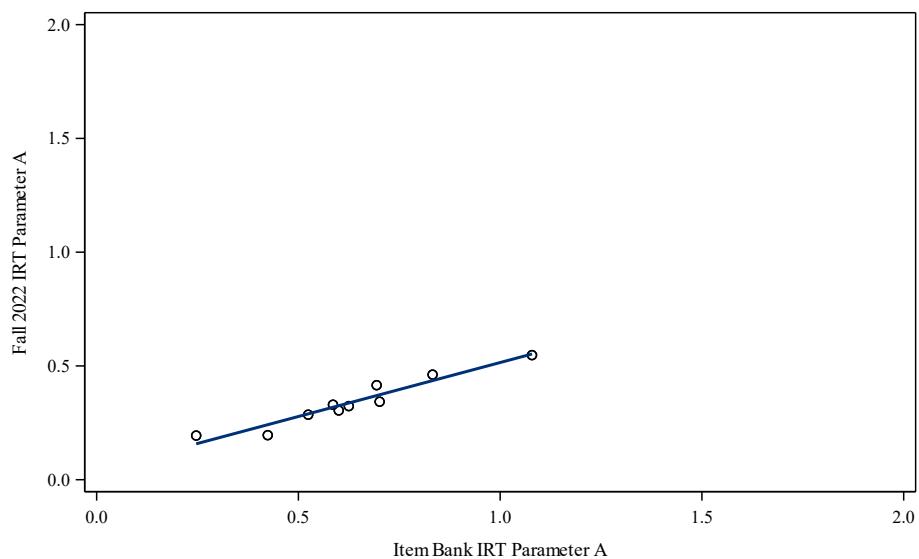
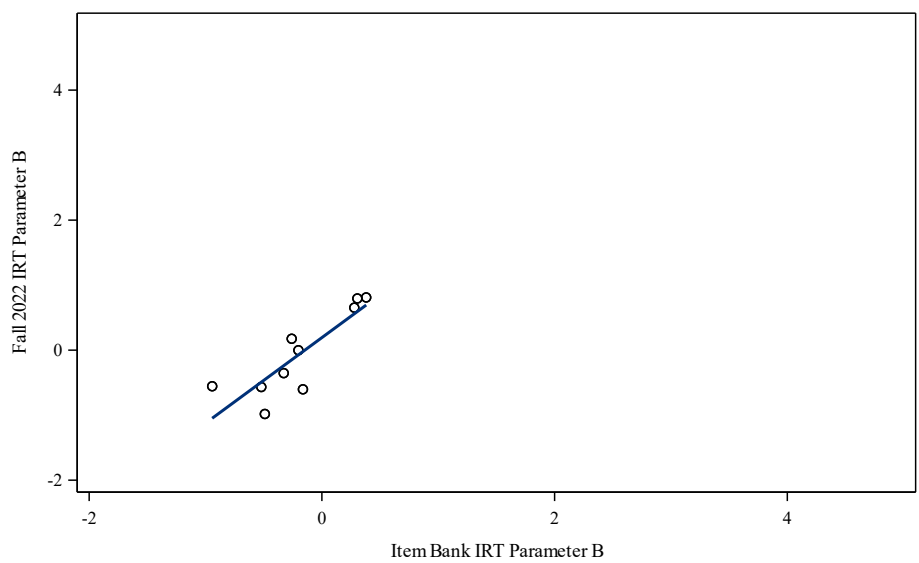


Figure 62. ELA10 Parameter B Comparison





## Math

Figure 63. MAT04 Parameter A Comparison

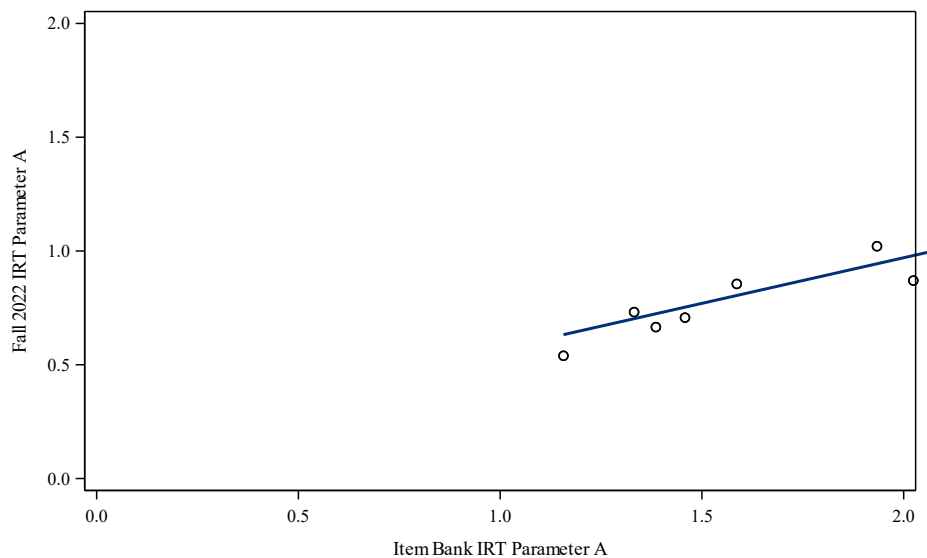


Figure 64. MAT04 Parameter B Comparison

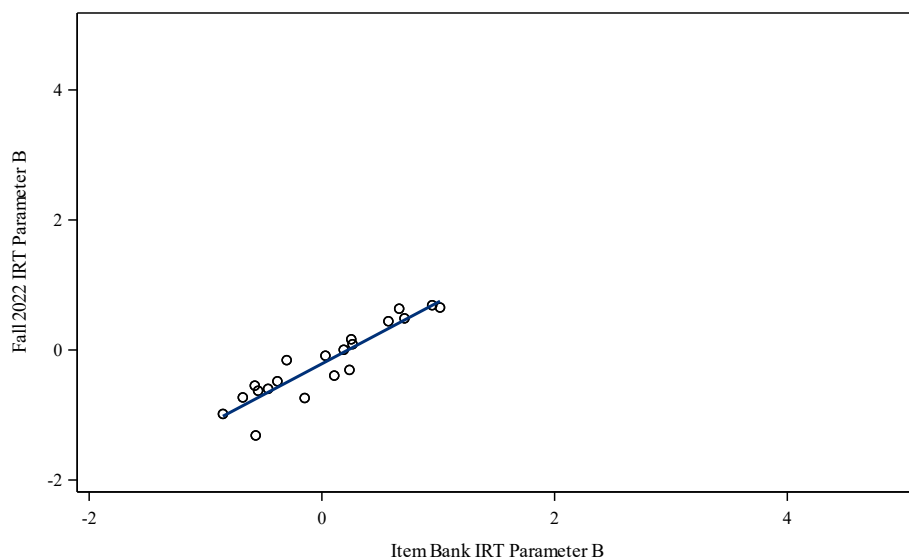




Figure 65. MAT05 Parameter A Comparison

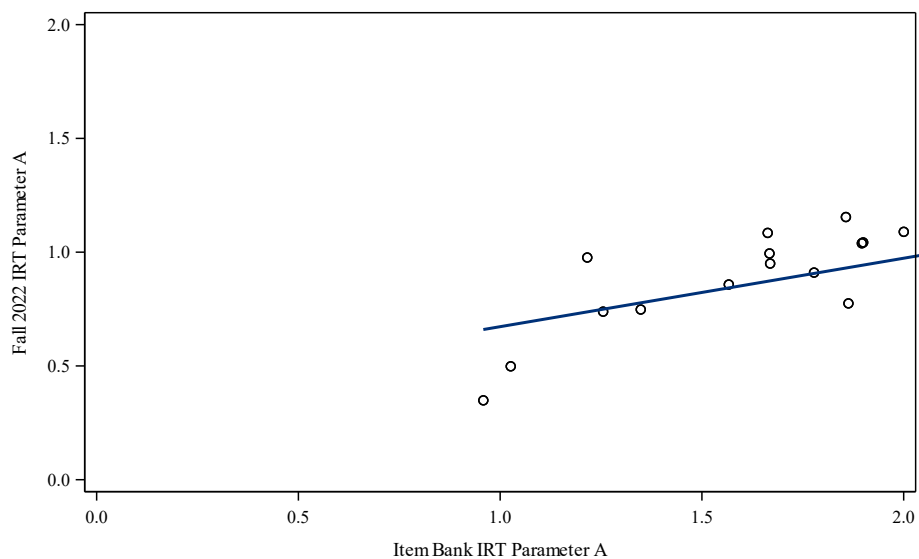


Figure 66. MAT05 Parameter B Comparison

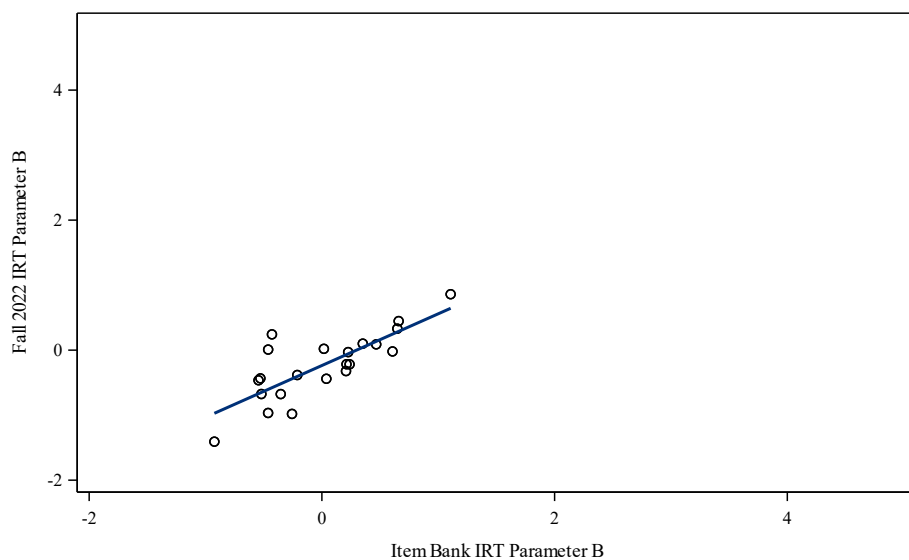




Figure 67. MAT06 Parameter A Comparison

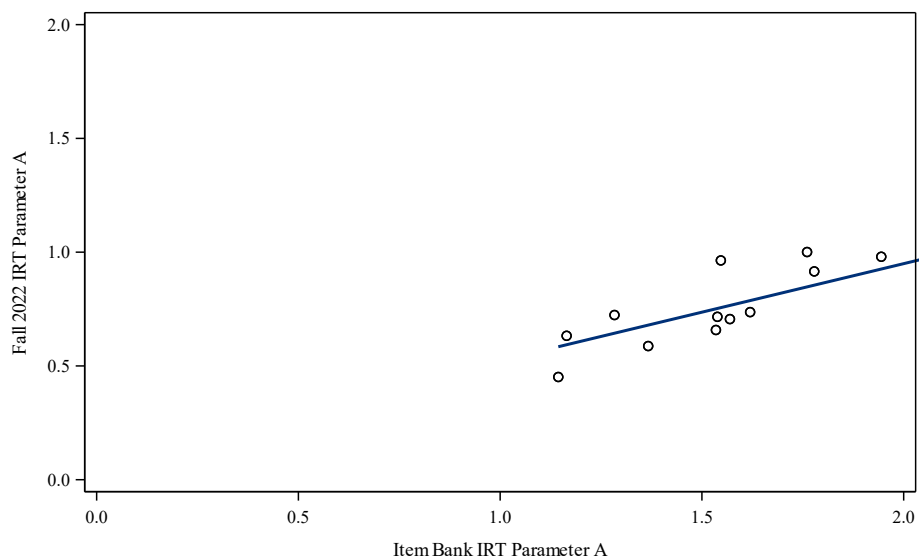


Figure 68. MAT06 Parameter B Comparison

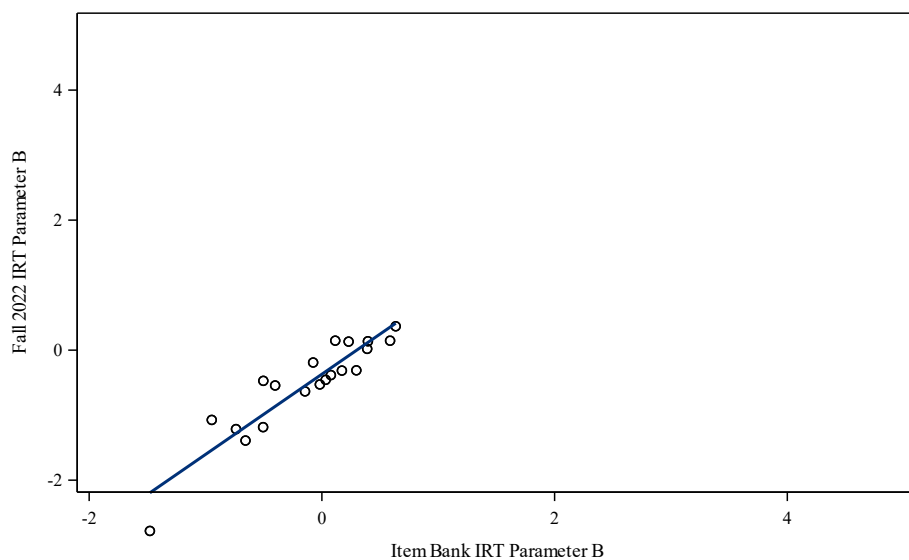




Figure 69. MAT07 Parameter A Comparison

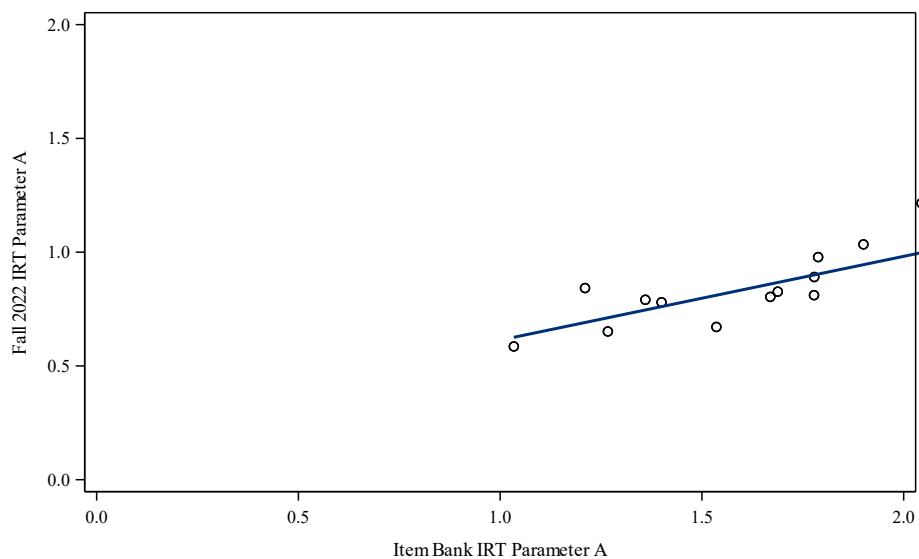


Figure 70. MAT07 Parameter B Comparison

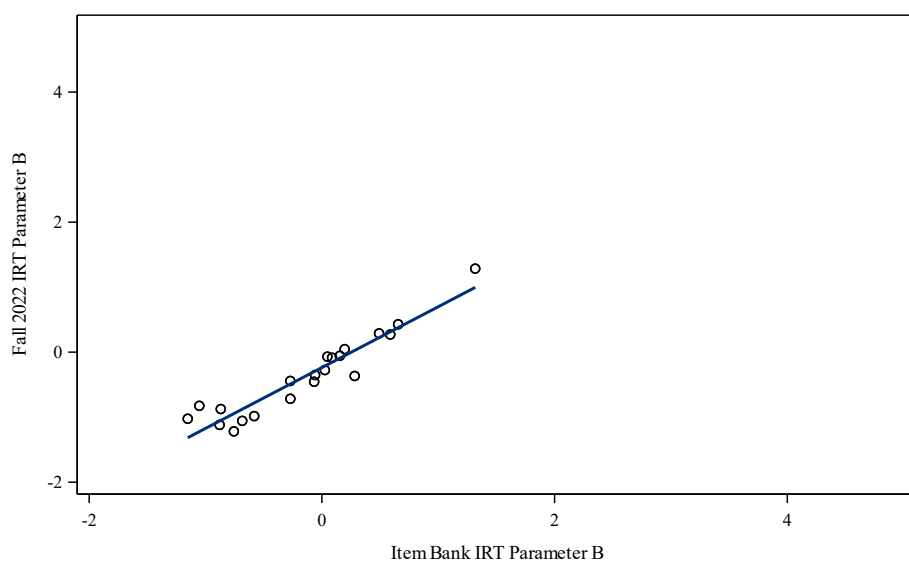




Figure 71. MAT08 Parameter A Comparison

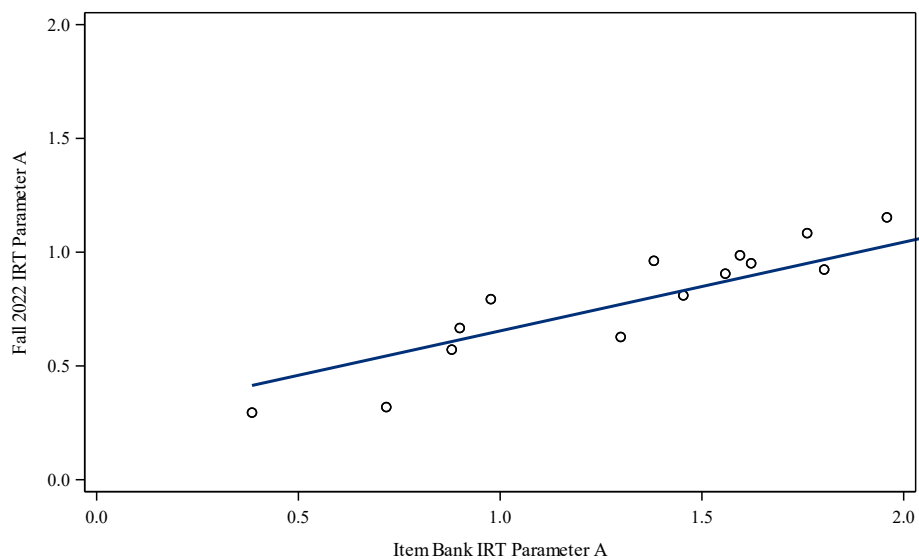


Figure 72. MAT08 Parameter B Comparison

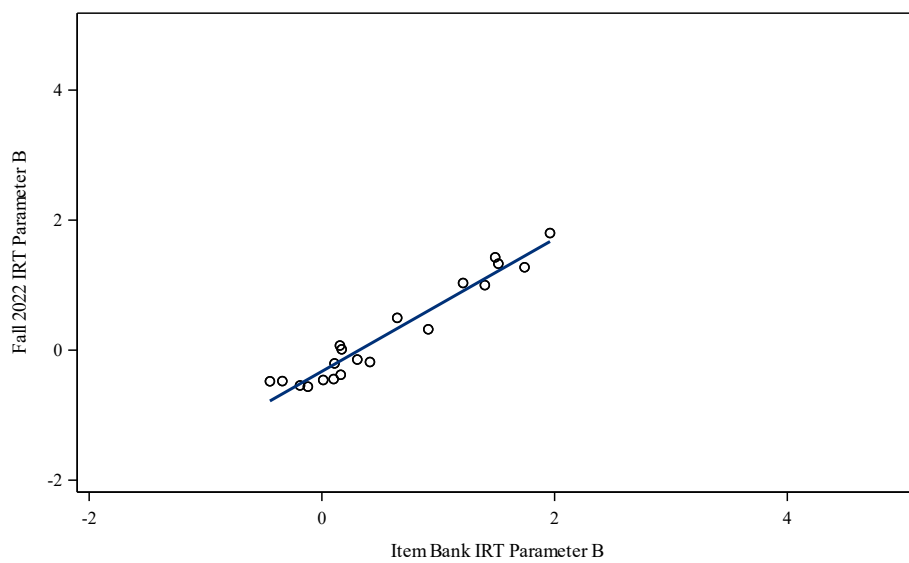




Figure 73. ALG01 Parameter A Comparison

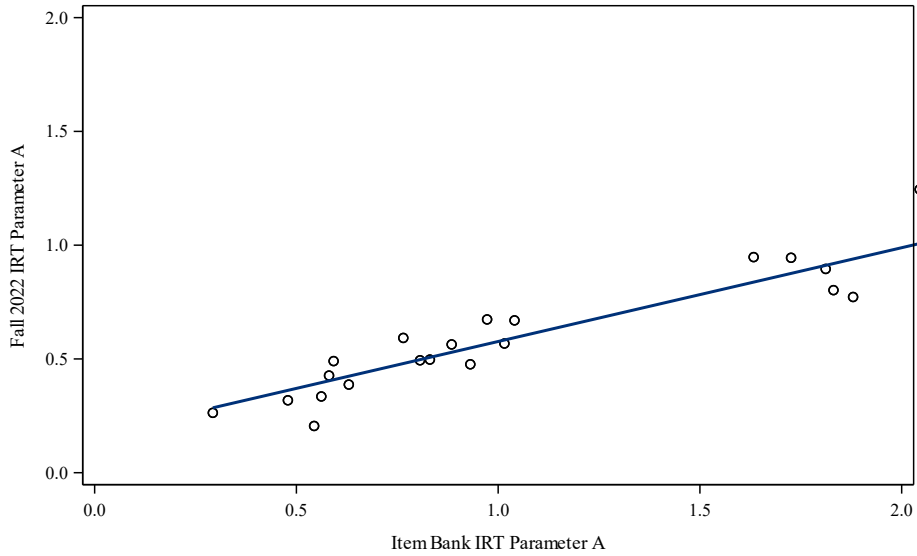


Figure 74. ALG01 Parameter B Comparison

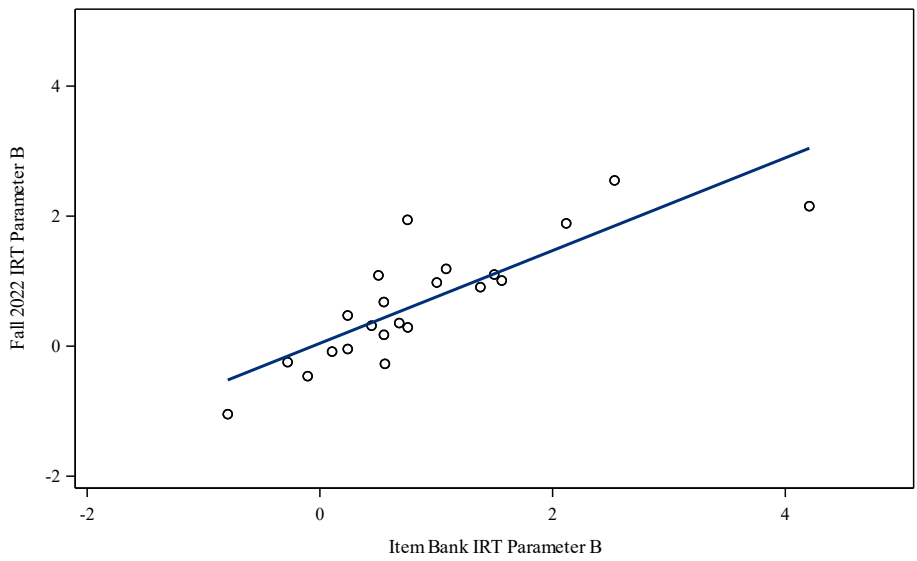






Figure 75. GEO01 Parameter A Comparison

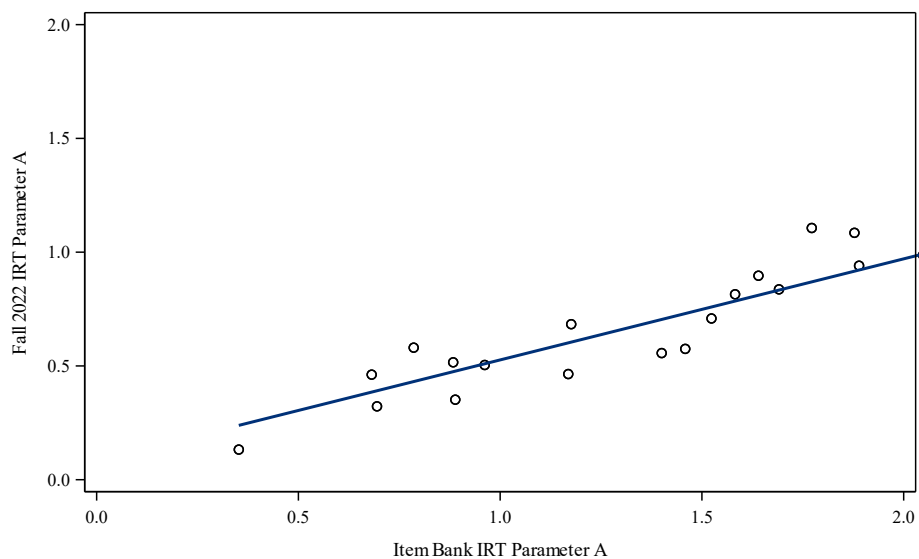


Figure 76. GEO01 Parameter B Comparison

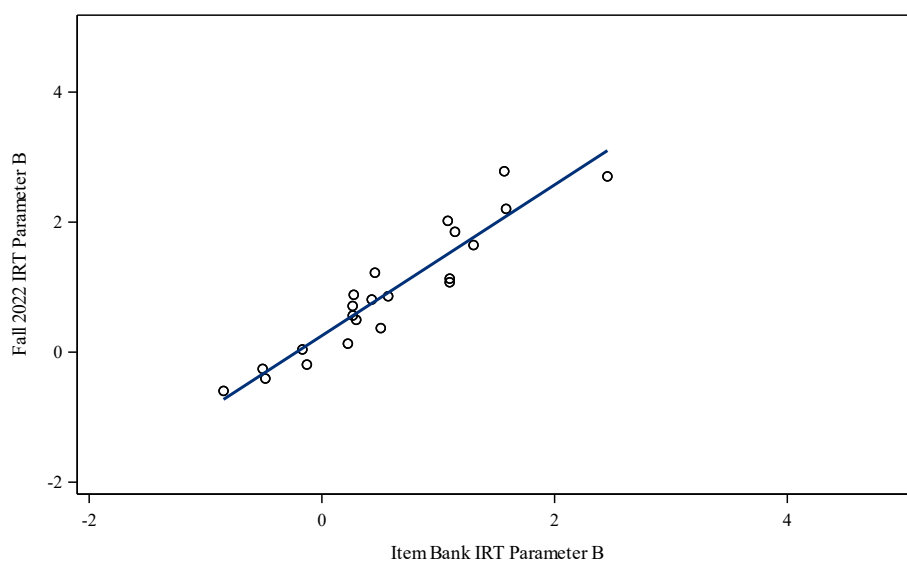




Figure 77. ALG02 Parameter A Comparison

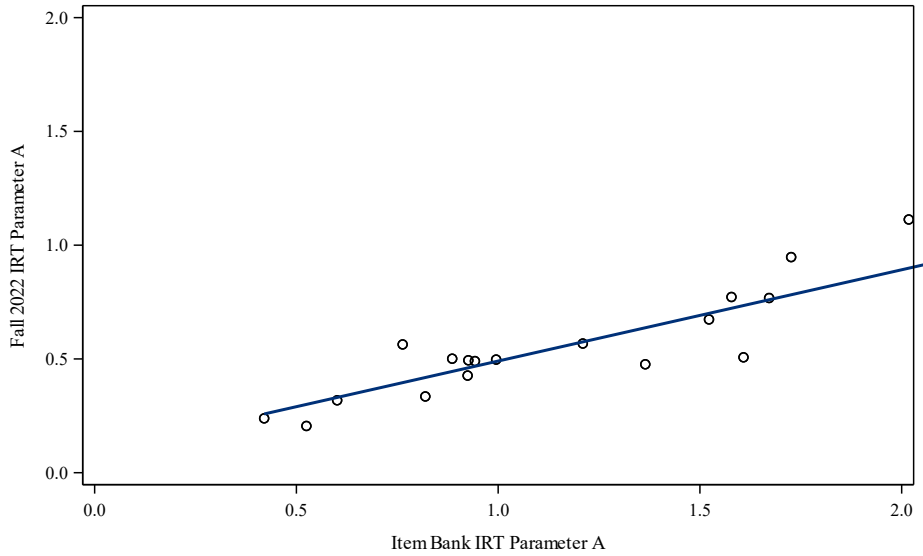
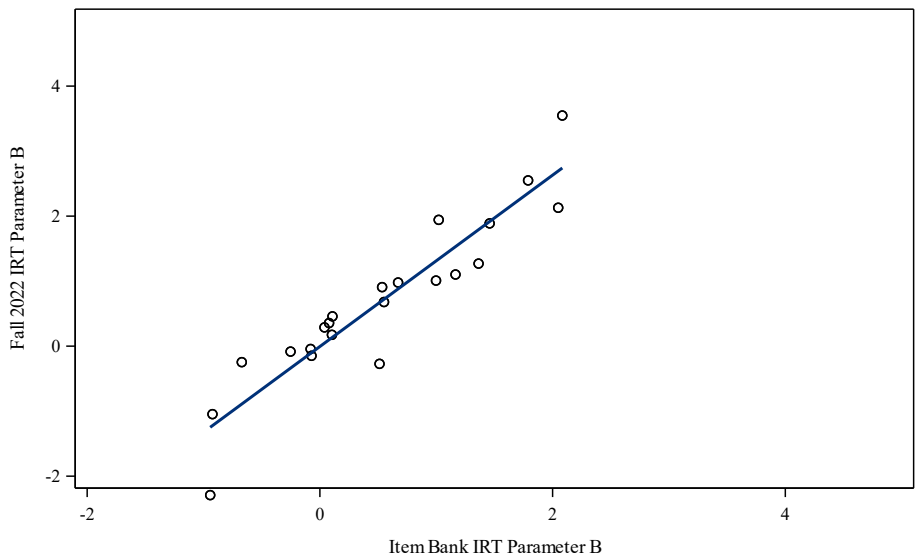


Figure 78. ALG02 Parameter B Comparison





## Appendix H. Score Distributions

### ELA

Figure 79. ELA04 Score Density Plot

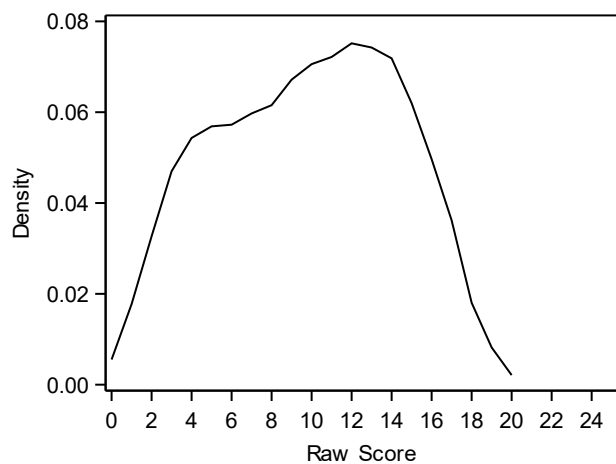




Table 84. ELA04 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	514	0.55	514	0.55
1	1,647	1.77	2,161	2.33
2	3,034	3.27	5,195	5.59
3	4,364	4.70	9,559	10.29
4	5,045	5.43	14,604	15.73
5	5,282	5.69	19,886	21.41
6	5,316	5.72	25,202	27.14
7	5,546	5.97	30,748	33.11
8	5,715	6.15	36,463	39.27
9	6,237	6.72	42,700	45.98
10	6,554	7.06	49,254	53.04
11	6,701	7.22	55,955	60.26
12	6,980	7.52	62,935	67.77
13	6,894	7.42	69,829	75.20
14	6,673	7.19	76,502	82.38
15	5,756	6.20	82,258	88.58
16	4,611	4.97	86,869	93.55
17	3,360	3.62	90,229	97.17
18	1,675	1.80	91,904	98.97
19	761	0.82	92,665	99.79
20	196	0.21	92,861	100.00



Figure 80. ELA05 Score Density Plot

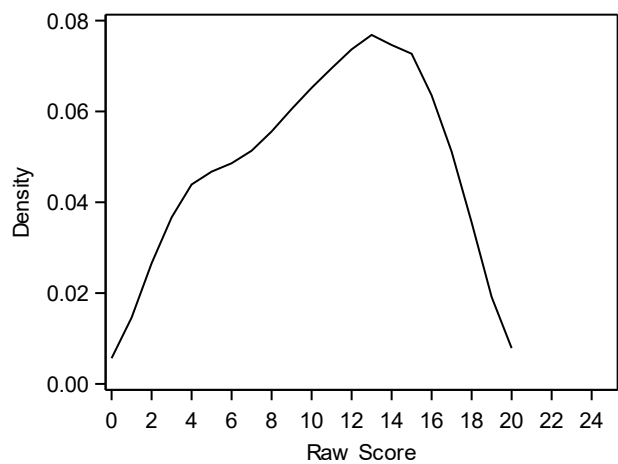




Table 85. ELA05 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	534	0.57	534	0.57
1	1,378	1.46	1,912	2.03
2	2,507	2.66	4,419	4.68
3	3,461	3.67	7,880	8.35
4	4,146	4.39	12,026	12.74
5	4,413	4.67	16,439	17.41
6	4,587	4.86	21,026	22.27
7	4,848	5.14	25,874	27.41
8	5,248	5.56	31,122	32.97
9	5,714	6.05	36,836	39.02
10	6,155	6.52	42,991	45.54
11	6,562	6.95	49,553	52.49
12	6,955	7.37	56,508	59.86
13	7,255	7.68	63,763	67.54
14	7,046	7.46	70,809	75.00
15	6,864	7.27	77,673	82.27
16	5,998	6.35	83,671	88.63
17	4,828	5.11	88,499	93.74
18	3,357	3.56	91,856	97.30
19	1,807	1.91	93,663	99.21
20	744	0.79	94,407	100.00



Figure 81. ELA06 Score Density Plot

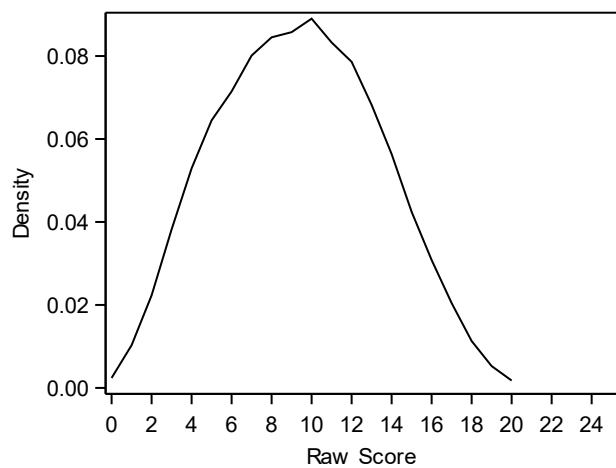




Table 85. ELA06 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	229	0.24	229	0.24
1	984	1.03	1,213	1.27
2	2,132	2.23	3,345	3.50
3	3,651	3.82	6,996	7.32
4	5,057	5.29	12,053	12.61
5	6,163	6.45	18,216	19.06
6	6,830	7.15	25,046	26.21
7	7,656	8.01	32,702	34.22
8	8,076	8.45	40,778	42.67
9	8,195	8.58	48,973	51.25
10	8,506	8.90	57,479	60.15
11	7,957	8.33	65,436	68.47
12	7,512	7.86	72,948	76.33
13	6,520	6.82	79,468	83.16
14	5,387	5.64	84,855	88.79
15	4,056	4.24	88,911	93.04
16	2,946	3.08	91,857	96.12
17	1,954	2.04	93,811	98.17
18	1,080	1.13	94,891	99.30
19	503	0.53	95,394	99.82
20	170	0.18	95,564	100.00





Figure 82. ELA07 Score Density Plot

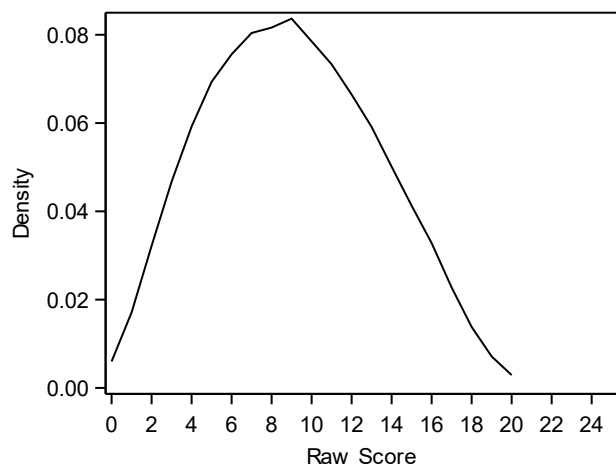




Table 86. ELA07 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	579	0.60	579	0.60
1	1,651	1.71	2,230	2.31
2	3,107	3.22	5,337	5.53
3	4,511	4.67	9,848	10.20
4	5,716	5.92	15,564	16.12
5	6,695	6.93	22,259	23.05
6	7,297	7.56	29,556	30.61
7	7,763	8.04	37,319	38.65
8	7,882	8.16	45,201	46.81
9	8,077	8.37	53,278	55.18
10	7,581	7.85	60,859	63.03
11	7,079	7.33	67,938	70.36
12	6,417	6.65	74,355	77.01
13	5,708	5.91	80,063	82.92
14	4,839	5.01	84,902	87.93
15	3,986	4.13	88,888	92.06
16	3,168	3.28	92,056	95.34
17	2,197	2.28	94,253	97.61
18	1,334	1.38	95,587	99.00
19	689	0.71	96,276	99.71
20	281	0.29	96,557	100.00



Figure 83. ELA08 Score Density Plot

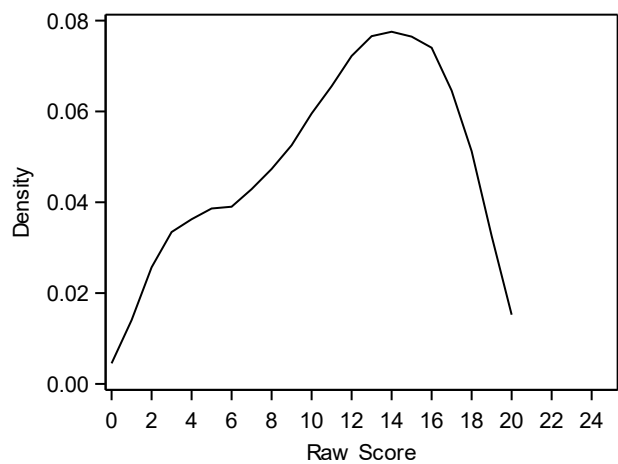




Table 87. ELA08 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	452	0.45	452	0.45
1	1,401	1.40	1,853	1.86
2	2,561	2.57	4,414	4.43
3	3,336	3.34	7,750	7.77
4	3,617	3.63	11,367	11.40
5	3,853	3.86	15,220	15.26
6	3,892	3.90	19,112	19.16
7	4,278	4.29	23,390	23.45
8	4,721	4.73	28,111	28.18
9	5,242	5.26	33,353	33.44
10	5,939	5.95	39,292	39.39
11	6,539	6.56	45,831	45.95
12	7,203	7.22	53,034	53.17
13	7,638	7.66	60,672	60.83
14	7,735	7.75	68,407	68.58
15	7,628	7.65	76,035	76.23
16	7,384	7.40	83,419	83.63
17	6,443	6.46	89,862	90.09
18	5,112	5.13	94,974	95.22
19	3,251	3.26	98,225	98.48
20	1,520	1.52	99,745	100.00



Figure 84. ELA09 Score Density Plot

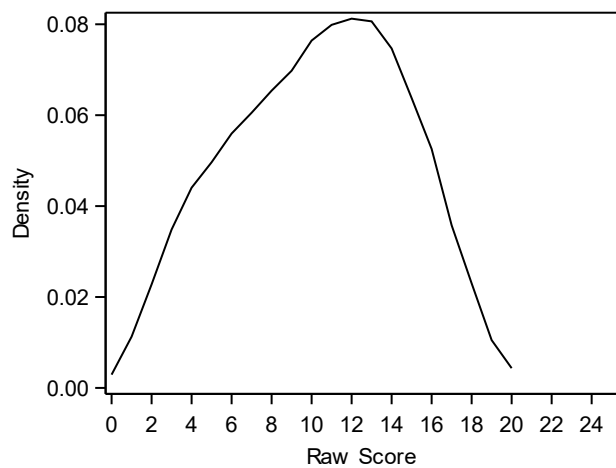




Table 88. ELA09 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	289	0.29	289	0.29
1	1,116	1.13	1,405	1.42
2	2,254	2.28	3,659	3.70
3	3,449	3.48	7,108	7.18
4	4,360	4.40	11,468	11.59
5	4,914	4.96	16,382	16.55
6	5,539	5.60	21,921	22.15
7	5,992	6.05	27,913	28.20
8	6,473	6.54	34,386	34.74
9	6,907	6.98	41,293	41.72
10	7,564	7.64	48,857	49.36
11	7,906	7.99	56,763	57.35
12	8,041	8.12	64,804	65.47
13	7,982	8.06	72,786	73.53
14	7,392	7.47	80,178	81.00
15	6,312	6.38	86,490	87.38
16	5,204	5.26	91,694	92.64
17	3,542	3.58	95,236	96.21
18	2,277	2.30	97,513	98.51
19	1,041	1.05	98,554	99.57
20	430	0.43	98,984	100.00



Figure 85. ELA10 Score Density Plot

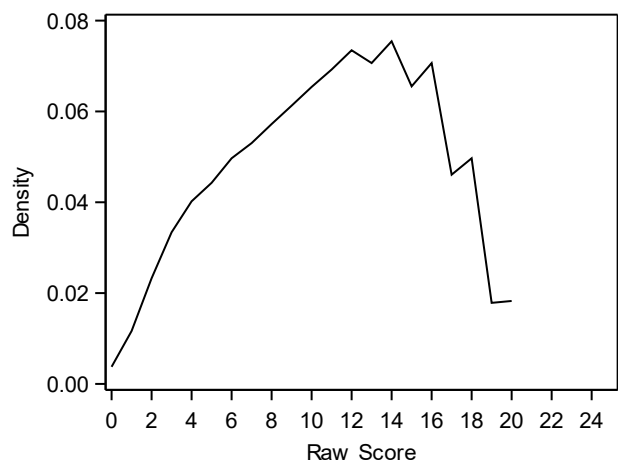




Table 89. ELA10 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	372	0.38	372	0.38
1	1,150	1.17	1,522	1.54
2	2,296	2.33	3,818	3.87
3	3,296	3.34	7,114	7.21
4	3,969	4.02	11,083	11.23
5	4,371	4.43	15,454	15.66
6	4,904	4.97	20,358	20.62
7	5,234	5.30	25,592	25.93
8	5,648	5.72	31,240	31.65
9	6,048	6.13	37,288	37.78
10	6,455	6.54	43,743	44.32
11	6,833	6.92	50,576	51.24
12	7,252	7.35	57,828	58.59
13	6,974	7.07	64,802	65.65
14	7,447	7.54	72,249	73.20
15	6,468	6.55	78,717	79.75
16	6,973	7.06	85,690	86.81
17	4,548	4.61	90,238	91.42
18	4,904	4.97	95,142	96.39
19	1,762	1.79	96,904	98.17
20	1,803	1.83	98,707	100.00





## Math

Figure 86. MAT04 Score Density Plot

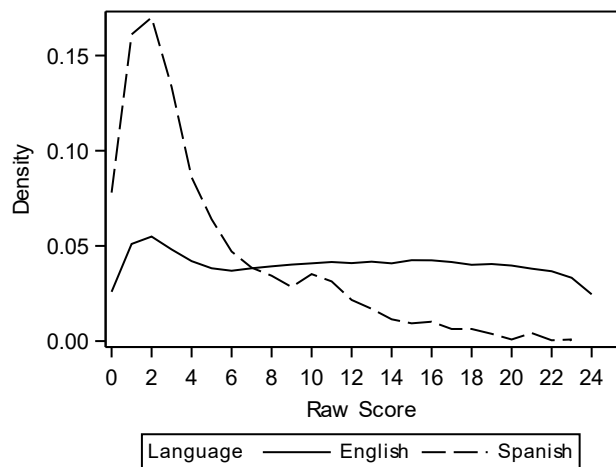




Table 90. MAT04 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	2,517	2.72	2,517	2.72
1	4,979	5.38	7,496	8.10
2	5,350	5.78	12,846	13.89
3	4,654	5.03	17,500	18.92
4	3,989	4.31	21,489	23.23
5	3,599	3.89	25,088	27.12
6	3,441	3.72	28,529	30.84
7	3,538	3.83	32,067	34.67
8	3,620	3.91	35,687	38.58
9	3,689	3.99	39,376	42.57
10	3,764	4.07	43,140	46.64
11	3,818	4.13	46,958	50.77
12	3,743	4.05	50,701	54.82
13	3,800	4.11	54,501	58.93
14	3,708	4.01	58,209	62.93
15	3,852	4.16	62,061	67.10
16	3,848	4.16	65,909	71.26
17	3,758	4.06	69,667	75.32
18	3,627	3.92	73,294	79.24
19	3,658	3.95	76,952	83.20
20	3,578	3.87	80,530	87.07
21	3,439	3.72	83,969	90.79
22	3,308	3.58	87,277	94.36
23	3,000	3.24	90,277	97.61
24	2,215	2.39	92,492	100.00



Figure 87. MAT05 Score Density Plot

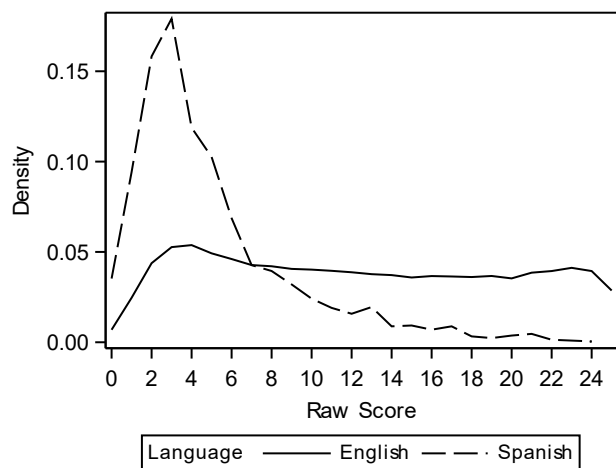




Table 91. MAT05 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	702	0.76	702	0.76
1	2,431	2.62	3,133	3.38
2	4,303	4.64	7,436	8.02
3	5,153	5.56	12,589	13.58
4	5,124	5.53	17,713	19.11
5	4,676	5.05	22,389	24.16
6	4,318	4.66	26,707	28.82
7	3,960	4.27	30,667	33.09
8	3,893	4.20	34,560	37.29
9	3,745	4.04	38,305	41.33
10	3,692	3.98	41,997	45.31
11	3,621	3.91	45,618	49.22
12	3,541	3.82	49,159	53.04
13	3,454	3.73	52,613	56.77
14	3,384	3.65	55,997	60.42
15	3,265	3.52	59,262	63.94
16	3,332	3.60	62,594	67.54
17	3,315	3.58	65,909	71.12
18	3,275	3.53	69,184	74.65
19	3,326	3.59	72,510	78.24
20	3,208	3.46	75,718	81.70
21	3,497	3.77	79,215	85.47
22	3,571	3.85	82,786	89.33
23	3,731	4.03	86,517	93.35
24	3,569	3.85	90,086	97.20
25	2,593	2.80	92,679	100.00



Figure 88. MAT06 Score Density Plot

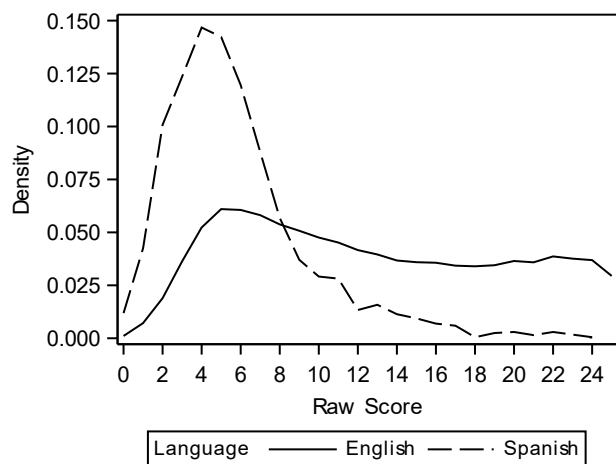




Table 92. MAT06 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	125	0.13	125	0.13
1	755	0.79	880	0.92
2	1,974	2.07	2,854	2.99
3	3,647	3.82	6,501	6.80
4	5,190	5.43	11,691	12.24
5	5,992	6.27	17,683	18.51
6	5,909	6.18	23,592	24.69
7	5,615	5.88	29,207	30.57
8	5,143	5.38	34,350	35.95
9	4,822	5.05	39,172	41.00
10	4,507	4.72	43,679	45.72
11	4,284	4.48	47,963	50.20
12	3,921	4.10	51,884	54.30
13	3,733	3.91	55,617	58.21
14	3,457	3.62	59,074	61.83
15	3,378	3.54	62,452	65.36
16	3,349	3.51	65,801	68.87
17	3,218	3.37	69,019	72.24
18	3,179	3.33	72,198	75.56
19	3,230	3.38	75,428	78.94
20	3,418	3.58	78,846	82.52
21	3,356	3.51	82,202	86.03
22	3,620	3.79	85,822	89.82
23	3,516	3.68	89,338	93.50
24	3,452	3.61	92,790	97.12
25	2,755	2.88	95,545	100.00



Figure 89. MAT07 Score Density Plot

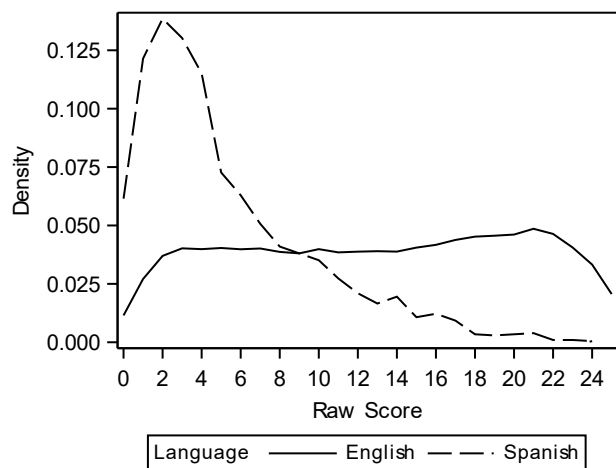




Table 93. MAT07 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	1,161	1.26	1,161	1.26
1	2,688	2.92	3,849	4.18
2	3,614	3.92	7,463	8.10
3	3,888	4.22	11,351	12.32
4	3,826	4.15	15,177	16.48
5	3,783	4.11	18,960	20.59
6	3,714	4.03	22,674	24.62
7	3,719	4.04	26,393	28.66
8	3,568	3.87	29,961	32.53
9	3,505	3.81	33,466	36.33
10	3,662	3.98	37,128	40.31
11	3,521	3.82	40,649	44.13
12	3,536	3.84	44,185	47.97
13	3,545	3.85	47,730	51.82
14	3,535	3.84	51,265	55.66
15	3,671	3.99	54,936	59.64
16	3,781	4.11	58,717	63.75
17	3,964	4.30	62,681	68.05
18	4,079	4.43	66,760	72.48
19	4,114	4.47	70,874	76.95
20	4,159	4.52	75,033	81.46
21	4,383	4.76	79,416	86.22
22	4,179	4.54	83,595	90.76
23	3,656	3.97	87,251	94.73
24	2,995	3.25	90,246	97.98
25	1,859	2.02	92,105	100.00





Figure 90. MAT08 Score Density Plot

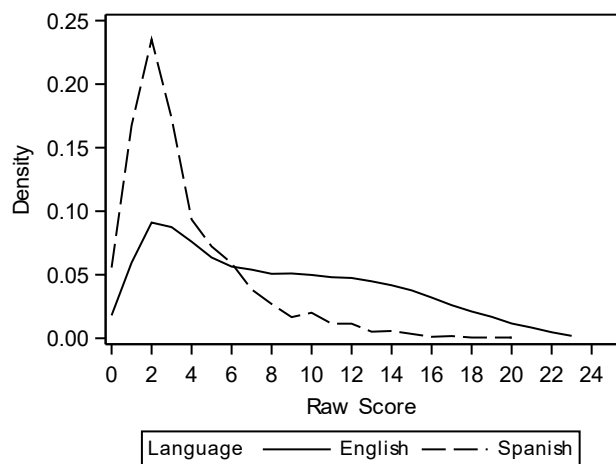




Table 94. MAT08 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	1,342	1.89	1,342	1.89
1	4,402	6.21	5,744	8.11
2	6,702	9.46	12,446	17.57
3	6,345	8.96	18,791	26.53
4	5,415	7.65	24,206	34.17
5	4,518	6.38	28,724	40.55
6	4,001	5.65	32,725	46.20
7	3,798	5.36	36,523	51.56
8	3,551	5.01	40,074	56.58
9	3,552	5.01	43,626	61.59
10	3,477	4.91	47,103	66.50
11	3,339	4.71	50,442	71.22
12	3,298	4.66	53,740	75.87
13	3,106	4.39	56,846	80.26
14	2,891	4.08	59,737	84.34
15	2,610	3.68	62,347	88.02
16	2,216	3.13	64,563	91.15
17	1,803	2.55	66,366	93.70
18	1,457	2.06	67,823	95.75
19	1,166	1.65	68,989	97.40
20	804	1.14	69,793	98.54
21	580	0.82	70,373	99.35
22	327	0.46	70,700	99.82
23	130	0.18	70,830	100.00



Figure 91. ALG01 Score Density Plot

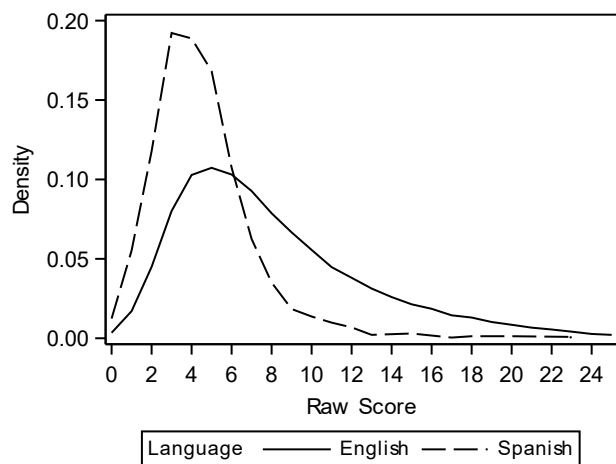




Table 95. ALG01 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	375	0.36	375	0.36
1	1,844	1.79	2,219	2.16
2	4,794	4.66	7,013	6.82
3	8,506	8.27	15,519	15.09
4	10,778	10.48	26,297	25.56
5	11,182	10.87	37,479	36.43
6	10,616	10.32	48,095	46.75
7	9,466	9.20	57,561	55.95
8	7,994	7.77	65,555	63.73
9	6,746	6.56	72,301	70.28
10	5,625	5.47	77,926	75.75
11	4,525	4.40	82,451	80.15
12	3,844	3.74	86,295	83.89
13	3,153	3.07	89,448	86.95
14	2,614	2.54	92,062	89.49
15	2,156	2.10	94,218	91.59
16	1,865	1.81	96,083	93.40
17	1,453	1.41	97,536	94.81
18	1,314	1.28	98,850	96.09
19	1,029	1.00	99,879	97.09
20	857	0.83	100,736	97.92
21	672	0.65	101,408	98.58
22	555	0.54	101,963	99.12
23	420	0.41	102,383	99.53
24	273	0.27	102,656	99.79
25	215	0.21	102,871	100.00



Figure 92. GEO01 Score Density Plot

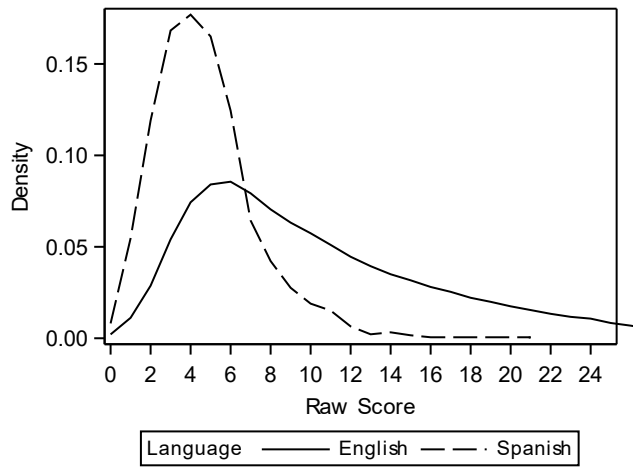




Table 96. GEO01 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	213	0.22	213	0.22
1	1,150	1.20	1,363	1.42
2	2,915	3.05	4,278	4.47
3	5,383	5.63	9,661	10.10
4	7,301	7.63	16,962	17.73
5	8,194	8.57	25,156	26.30
6	8,260	8.64	33,416	34.93
7	7,555	7.90	40,971	42.83
8	6,689	6.99	47,660	49.83
9	5,983	6.25	53,643	56.08
10	5,421	5.67	59,064	61.75
11	4,818	5.04	63,882	66.78
12	4,193	4.38	68,075	71.17
13	3,702	3.87	71,777	75.04
14	3,289	3.44	75,066	78.48
15	2,976	3.11	78,042	81.59
16	2,632	2.75	80,674	84.34
17	2,383	2.49	83,057	86.83
18	2,076	2.17	85,133	89.00
19	1,869	1.95	87,002	90.95
20	1,638	1.71	88,640	92.67
21	1,448	1.51	90,088	94.18
22	1,254	1.31	91,342	95.49
23	1,098	1.15	92,440	96.64
24	1,007	1.05	93,447	97.69
25	784	0.82	94,231	98.51
26	647	0.68	94,878	99.19
27	476	0.50	95,354	99.69
28	300	0.31	95,654	100.00



Figure 93. ALG02 Score Density Plot

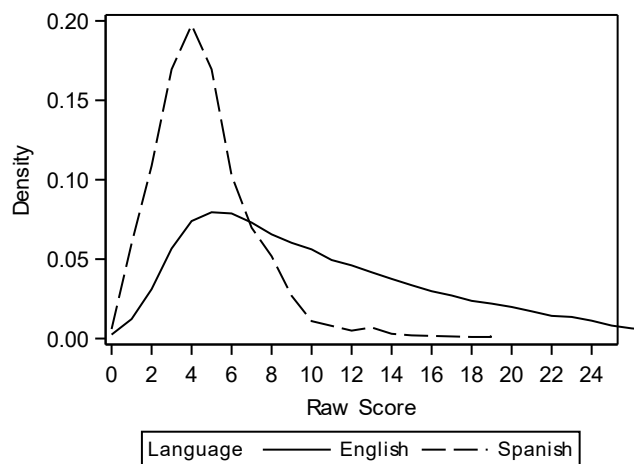




Table 97. ALG02 Score Distribution

Score	Count	Percent	Cumulative Count	Cumulative Percent
0	215	0.25	215	0.25
1	1,095	1.28	1,310	1.53
2	2,731	3.20	4,041	4.73
3	4,952	5.80	8,993	10.53
4	6,441	7.54	15,434	18.07
5	6,881	8.06	22,315	26.13
6	6,750	7.90	29,065	34.03
7	6,232	7.30	35,297	41.33
8	5,588	6.54	40,885	47.87
9	5,114	5.99	45,999	53.86
10	4,750	5.56	50,749	59.43
11	4,181	4.90	54,930	64.32
12	3,893	4.56	58,823	68.88
13	3,529	4.13	62,352	73.01
14	3,173	3.72	65,525	76.73
15	2,836	3.32	68,361	80.05
16	2,515	2.94	70,876	82.99
17	2,288	2.68	73,164	85.67
18	2,004	2.35	75,168	88.02
19	1,857	2.17	77,025	90.19
20	1,678	1.96	78,703	92.16
21	1,447	1.69	80,150	93.85
22	1,205	1.41	81,355	95.26
23	1,148	1.34	82,503	96.61
24	949	1.11	83,452	97.72
25	689	0.81	84,141	98.53
26	540	0.63	84,681	99.16
27	441	0.52	85,122	99.67
28	278	0.33	85,400	100.00





## Appendix I. Score Descriptive Statistics

### ELA

Table 98. ELA04 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	92,861	9.82	4.56	0	20
Male	47,163	9.49	4.60	0	20
Female	45,690	10.16	4.50	0	20

Table 99. ELA04 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	92,861	9.82	4.56	0	20
American Indian/Alaska Native	186	9.97	4.54	1	20
Asian	10,047	12.35	4.09	0	20
Black/African American	13,178	8.39	4.41	0	20
Hispanic/Latino	30,306	8.11	4.34	0	20
Native Hawaiian/Pacific Islander	173	10.63	4.58	1	19
Two or More Races Reported	3,160	10.95	4.51	0	20
White/Caucasian	35,793	10.97	4.21	0	20

Table 100. ELA04 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	92,861	9.82	4.56	0	20
Not Economically Disadvantaged	61,495	10.78	4.40	0	20
Economically Disadvantaged	31,358	7.93	4.27	0	20



Table 101. ELA04 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	92,861	9.82	4.56	0	20
Not English Learner	82,876	10.32	4.43	0	20
English Learner	9,983	5.70	3.40	0	20

Table 102. ELA04 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	92,861	9.82	4.56	0	20
Students without Disabilities	74,607	10.36	4.43	0	20
Students with Disabilities	18,249	7.60	4.41	0	20

Table 103. ELA05 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	94,407	10.71	4.74	0	20
Male	48,114	10.30	4.75	0	20
Female	46,285	11.14	4.69	0	20

Table 104. ELA05 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	94,407	10.71	4.74	0	20
American Indian/Alaska Native	172	10.70	5.10	0	20
Asian	10,466	13.57	3.99	0	20
Black/African American	13,809	9.16	4.66	0	20
Hispanic/Latino	30,285	8.95	4.63	0	20
Native Hawaiian/Pacific Islander	183	11.11	4.55	0	20
Two or More Races Reported	3,039	12.05	4.43	0	20
White/Caucasian	36,432	11.82	4.30	0	20



Table 105. ELA05 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	94,407	10.71	4.74	0	20
Not Economically Disadvantaged	62,825	11.67	4.55	0	20
Economically Disadvantaged	31,573	8.81	4.54	0	20

Table 106. ELA05 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	94,407	10.71	4.74	0	20
Not English Learner	86,040	11.18	4.57	0	20
English Learner	8,365	5.89	3.73	0	20

Table 107. ELA05 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	94,407	10.71	4.74	0	20
Students without Disabilities	75,025	11.33	4.56	0	20
Students with Disabilities	19,374	8.31	4.68	0	20

Table 108. ELA06 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	95,564	9.38	4.03	0	20
Male	48,794	9.19	4.09	0	20
Female	46,749	9.58	3.95	0	20

Table 109. ELA06 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	95,564	9.38	4.03	0	20
American Indian/Alaska Native	166	9.69	4.17	1	19
Asian	10,325	11.90	3.78	0	20
Black/African American	13,497	8.06	3.82	0	20
Hispanic/Latino	30,716	8.08	3.75	0	20
Native Hawaiian/Pacific Islander	189	10.29	3.81	1	19



Group	N	Mean	SD	Min	Max
Two or More Races Reported	2,841	10.14	4.03	0	20
White/Caucasian	37,813	10.17	3.83	0	20

Table 110. ELA06 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	95,564	9.38	4.03	0	20
Not Economically Disadvantaged	64,276	10.11	3.98	0	20
Economically Disadvantaged	31,279	7.88	3.69	0	20

Table 111. ELA06 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	95,564	9.38	4.03	0	20
Not English Learner	88,704	9.68	3.96	0	20
English Learner	6,854	5.58	2.79	0	17

Table 112. ELA06 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	95,564	9.38	4.03	0	20
Students without Disabilities	75,899	9.91	3.91	0	20
Students with Disabilities	19,659	7.36	3.81	0	20

Table 113. ELA07 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	96,557	9.06	4.29	0	20
Male	49,349	8.73	4.27	0	20
Female	47,164	9.40	4.29	0	20



Table 114. ELA07 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	96,557	9.06	4.29	0	20
American Indian/Alaska Native	172	9.03	4.09	1	20
Asian	10,419	11.63	4.12	0	20
Black/African American	13,972	7.82	3.96	0	20
Hispanic/Latino	30,501	7.59	4.00	0	20
Native Hawaiian/Pacific Islander	179	9.55	3.83	1	18
Two or More Races Reported	2,778	10.06	4.33	0	20
White/Caucasian	38,519	9.90	4.11	0	20

Table 115. ELA07 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	96,557	9.06	4.29	0	20
Not Economically Disadvantaged	65,632	9.78	4.27	0	20
Economically Disadvantaged	30,920	7.54	3.92	0	20

Table 116. ELA07 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	96,557	9.06	4.29	0	20
Not English Learner	90,396	9.37	4.20	0	20
English Learner	6,158	4.47	2.80	0	20

Table 117. ELA07 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	96,557	9.06	4.29	0	20
Students without Disabilities	76,860	9.60	4.22	0	20
Students with Disabilities	19,694	6.97	3.91	0	20



Table 118. ELA08 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	99,745	11.43	4.88	0	20
Male	51,208	11.02	4.95	0	20
Female	48,483	11.87	4.77	0	20

Table 119. ELA08 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	99,745	11.43	4.88	0	20
American Indian/Alaska Native	145	11.08	4.62	1	20
Asian	10,548	14.31	4.01	0	20
Black/African American	14,709	9.65	4.77	0	20
Hispanic/Latino	31,377	9.75	4.85	0	20
Native Hawaiian/Pacific Islander	206	12.36	4.43	1	20
Two or More Races Reported	2,644	12.34	4.74	0	20
White/Caucasian	40,112	12.58	4.44	0	20

Table 120. ELA08 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	99,745	11.43	4.88	0	20
Not Economically Disadvantaged	68,282	12.27	4.70	0	20
Economically Disadvantaged	31,454	9.60	4.76	0	20

Table 121. ELA08 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	99,745	11.43	4.88	0	20
Not English Learner	94,079	11.80	4.70	0	20
English Learner	5,658	5.29	3.45	0	20



Table 122. ELA08 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	99,745	11.43	4.88	0	20
Students without Disabilities	79,376	12.13	4.64	0	20
Students with Disabilities	20,360	8.72	4.86	0	20

Table 123. ELA09 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	98,984	10.31	4.38	0	20
Male	50,405	9.79	4.43	0	20
Female	48,455	10.85	4.27	0	20

Table 124. ELA09 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	98,984	10.31	4.38	0	20
American Indian/Alaska Native	166	10.12	4.49	0	19
Asian	10,593	12.88	3.82	0	20
Black/African American	14,352	9.08	4.24	0	20
Hispanic/Latino	31,620	9.05	4.33	0	20
Native Hawaiian/Pacific Islander	180	10.71	4.16	1	20
Two or More Races Reported	2,481	11.10	4.18	0	20
White/Caucasian	39,571	11.04	4.14	0	20

Table 125. ELA09 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	98,984	10.31	4.38	0	20
Not Economically Disadvantaged	69,383	10.93	4.29	0	20
Economically Disadvantaged	29,600	8.86	4.25	0	20



Table 126. ELA09 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	98,984	10.31	4.38	0	20
Not English Learner	93,655	10.60	4.26	0	20
English Learner	5,328	5.25	3.20	0	18

Table 127. ELA09 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	98,984	10.31	4.38	0	20
Students without Disabilities	80,134	10.84	4.26	0	20
Students with Disabilities	18,848	8.09	4.20	0	20

Table 128. ELA10 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	98,707	10.99	4.76	0	20
Male	50,275	10.36	4.80	0	20
Female	48,307	11.63	4.63	0	20

Table 129. ELA10 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	98,707	10.99	4.76	0	20
American Indian/Alaska Native	144	10.65	4.78	0	20
Asian	10,435	13.56	4.08	0	20
Black/African American	13,767	9.85	4.68	0	20
Hispanic/Latino	31,412	9.46	4.73	0	20
Native Hawaiian/Pacific Islander	210	12.31	4.45	0	20
Two or More Races Reported	2,351	11.88	4.62	0	20
White/Caucasian	40,381	11.84	4.48	0	20





Table 130. ELA10 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	98,707	10.99	4.76	0	20
Not Economically Disadvantaged	69,953	11.61	4.65	0	20
Economically Disadvantaged	28,753	9.47	4.69	0	20

Table 131. ELA10 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	98,707	10.99	4.76	0	20
Not English Learner	93,232	11.32	4.62	0	20
English Learner	5,475	5.25	3.24	0	20

Table 132. ELA10 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	98,707	10.99	4.76	0	20
Students without Disabilities	79,580	11.53	4.63	0	20
Students with Disabilities	19,125	8.72	4.65	0	20

## Math

Table 133. MAT04 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
Male	47,126	11.76	7.24	0	24
Female	45,358	11.01	6.88	0	24

Table 134. MAT04 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
American Indian/Alaska Native	182	12.48	7.44	0	24
Asian	10,083	17.28	6.04	0	24



Group	N	Mean	SD	Min	Max
Black/African American	12,974	8.00	6.24	0	24
Hispanic/Latino	30,366	8.44	6.21	0	24
Native Hawaiian/Pacific Islander	175	11.99	6.94	0	24
Two or More Races Reported	3,117	12.96	7.17	0	24
White/Caucasian	35,578	13.34	6.50	0	24

Table 135. MAT04 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
Not Economically Disadvantaged	61,311	13.12	6.91	0	24
Economically Disadvantaged	31,172	7.99	6.11	0	24

Table 136. MAT04 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
Not English Learner	81,928	12.07	7.00	0	24
English Learner	10,562	6.18	5.28	0	24

Table 137. MAT04 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
Students without Disabilities	74,306	12.22	6.94	0	24
Students with Disabilities	18,181	8.00	6.61	0	24

Table 138. MAT04 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	92,492	11.39	7.08	0	24
English	90,133	11.57	7.05	0	24
Spanish	2,359	4.72	4.38	0	23



Table 139. MAT05 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	92,679	12.23	7.25	0	25
Male	47,589	12.67	7.36	0	25
Female	45,083	11.77	7.11	0	25

Table 140. MAT05 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	92,679	12.23	7.25	0	25
Not English Learner	83,789	12.85	7.18	0	25
English Learner	8,888	6.39	5.06	0	25

Table 141. MAT05 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	92,679	12.23	7.25	0	25
Students without Disabilities	73,425	13.16	7.15	0	25
Students with Disabilities	19,245	8.70	6.51	0	25

Table 142. MAT05 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	92,679	12.23	7.25	0	25
English	90,524	12.40	7.22	0	25
Spanish	2,155	5.01	4.09	0	24

Table 143. MAT06 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
Male	48,874	12.71	7.02	0	25
Female	46,649	12.19	6.53	0	25





Table 144. MAT06 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
American Indian/Alaska Native	164	12.46	6.96	2	25
Asian	10,302	18.83	5.91	0	25
Black/African American	13,361	9.07	5.55	0	25
Hispanic/Latino	30,918	9.74	5.76	0	25
Native Hawaiian/Pacific Islander	185	14.57	6.88	1	25
Two or More Races Reported	2,818	13.74	6.89	0	25
White/Caucasian	37,780	14.05	6.42	0	25

Table 145. MAT06 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
Not Economically Disadvantaged	64,338	14.01	6.80	0	25
Economically Disadvantaged	31,196	9.27	5.55	0	25

Table 146. MAT06 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
Not English Learner	88,080	12.94	6.75	0	25
English Learner	7,459	6.78	4.20	0	25

Table 147. MAT06 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
Students without Disabilities	75,930	13.32	6.75	0	25
Students with Disabilities	19,609	9.13	5.84	0	25



Table 148. MAT06 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	95,545	12.46	6.79	0	25
English	93,521	12.61	6.77	0	25
Spanish	2,024	5.74	3.63	0	24

Table 149. MAT07 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
Male	46,879	12.97	7.19	0	25
Female	45,183	12.69	7.02	0	25

Table 150. MAT07 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
American Indian/Alaska Native	162	12.50	7.00	0	24
Asian	8,259	18.30	5.94	0	25
Black/African American	13,585	9.52	6.61	0	25
Hispanic/Latino	30,294	10.17	6.55	0	25
Native Hawaiian/Pacific Islander	163	14.36	6.89	0	25
Two or More Races Reported	2,603	14.08	6.96	0	25
White/Caucasian	37,024	14.91	6.48	0	25

Table 151. MAT07 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
Not Economically Disadvantaged	61,600	14.31	6.93	0	25
Economically Disadvantaged	30,500	9.84	6.50	0	25



Table 152. MAT07 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
Not English Learner	85,384	13.36	6.98	0	25
English Learner	6,718	6.10	4.97	0	25

Table 153. MAT07 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
Students without Disabilities	72,681	13.94	6.83	0	25
Students with Disabilities	19,421	8.67	6.58	0	25

Table 154. MAT07 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	92,105	12.83	7.11	0	25
English	90,055	13.00	7.06	0	25
Spanish	2,050	5.24	4.43	0	24

Table 155. MAT08 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
Male	36,655	8.59	5.60	0	23
Female	34,135	7.64	5.34	0	23

Table 156. MAT08 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
American Indian/Alaska Native	109	6.82	5.17	0	21
Asian	3,837	11.91	5.97	0	23
Black/African American	12,193	6.06	4.80	0	23
Hispanic/Latino	26,006	6.89	5.01	0	23
Native Hawaiian/Pacific Islander	135	9.28	5.16	1	21



Group	N	Mean	SD	Min	Max
Two or More Races Reported	1,764	8.67	5.63	0	23
White/Caucasian	26,781	9.71	5.43	0	23

Table 157. MAT08 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
Not Economically Disadvantaged	44,372	9.01	5.60	0	23
Economically Disadvantaged	26,450	6.67	4.99	0	23

Table 158. MAT08 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
Not English Learner	65,275	8.47	5.50	0	23
English Learner	5,548	4.16	3.52	0	21

Table 159. MAT08 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
Students without Disabilities	52,933	8.88	5.52	0	23
Students with Disabilities	17,889	5.93	4.79	0	23

Table 160. MAT08 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	70,830	8.13	5.50	0	23
English	69,087	8.25	5.50	0	23
Spanish	1,743	3.62	3.00	0	20





Table 161. ALG01 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
Male	53,284	8.01	4.89	0	25
Female	49,481	7.84	4.55	0	25

Table 162. ALG01 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
American Indian/Alaska Native	174	8.05	5.11	0	25
Asian	10,405	12.12	5.77	0	25
Black/African American	15,217	6.03	3.62	0	25
Hispanic/Latino	34,116	6.52	3.93	0	25
Native Hawaiian/Pacific Islander	208	8.57	4.75	0	25
Two or More Races Reported	2,545	8.64	4.98	0	25
White/Caucasian	40,192	8.71	4.52	0	25

Table 163. ALG01 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
Not Economically Disadvantaged	71,511	8.62	4.91	0	25
Economically Disadvantaged	31,359	6.35	3.85	0	25

Table 164. ALG01 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
Not English Learner	95,646	8.17	4.75	0	25
English Learner	7,224	4.76	2.90	0	23



Table 165. ALG01 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
Students without Disabilities	82,294	8.43	4.81	0	25
Students with Disabilities	20,575	5.91	3.74	0	25

Table 166. ALG01 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	102,871	7.93	4.73	0	25
English	100,535	8.01	4.74	0	25
Spanish	2,336	4.50	2.54	0	23

Table 167. GEO01 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
Male	49,006	10.04	6.22	0	28
Female	46,529	9.87	5.72	0	28

Table 168. GEO01 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
American Indian/Alaska Native	163	9.93	6.43	0	28
Asian	9,480	15.72	6.90	0	28
Black/African American	13,623	7.50	4.53	0	28
Hispanic/Latino	30,632	7.78	4.76	0	28
Native Hawaiian/Pacific Islander	183	11.22	5.68	1	26
Two or More Races Reported	2,379	10.96	6.19	0	28
White/Caucasian	39,181	11.06	5.76	0	28



Table 169. GEO01 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
Not Economically Disadvantaged	67,644	10.91	6.21	0	28
Economically Disadvantaged	28,009	7.66	4.64	0	28

Table 170. GEO01 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
Not English Learner	89,786	10.28	5.99	0	28
English Learner	5,868	5.13	3.10	0	28

Table 171. GEO01 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
Students without Disabilities	77,047	10.67	6.05	0	28
Students with Disabilities	18,606	7.02	4.65	0	28

Table 172. GEO01 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	95,654	9.96	5.98	0	28
English	93,806	10.06	5.98	0	28
Spanish	1,848	4.68	2.51	0	21

Table 173. ALG02 Score Summary by Gender

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
Male	42,771	10.33	6.29	0	28
Female	42,523	10.05	5.90	0	28



Table 174. ALG02 Score Summary by Ethnicity

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
American Indian/Alaska Native	124	9.31	5.99	0	26
Asian	10,125	16.10	6.76	0	28
Black/African American	10,735	7.18	4.42	0	28
Hispanic/Latino	25,310	7.72	4.76	0	28
Native Hawaiian/Pacific Islander	239	10.07	5.80	0	27
Two or More Races Reported	1,992	11.44	6.31	0	28
White/Caucasian	36,867	11.08	5.72	0	28

Table 175. ALG02 Score Summary by Economic Status

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
Not Economically Disadvantaged	63,162	11.10	6.27	0	28
Economically Disadvantaged	22,238	7.62	4.73	0	28

Table 176. ALG02 Score Summary by English Learner Status

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
Not English Learner	81,503	10.42	6.10	0	28
English Learner	3,897	5.39	3.67	0	28

Table 177. ALG02 Score Summary by Disability Status

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
Students without Disabilities	71,239	10.75	6.16	0	28
Students with Disabilities	14,160	7.39	4.93	0	28



Table 178. ALG02 Score Summary by Language

Group	N	Mean	SD	Min	Max
All	85,400	10.19	6.10	0	28
English	84,397	10.26	6.10	0	28
Spanish	1,003	4.64	2.48	0	19



## Appendix J. Support Classifications

### ELA

Table 179. ELA04 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	36,463	39.27	36,463	39.27
2	19,492	20.99	55,955	60.26
3	36,906	39.74	92,861	100.00

Table 180. ELA04 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	16,434	35.97	16,434	35.97
Female	2	9,807	21.46	26,241	57.43
Female	3	19,449	42.57	45,690	100.00
Male	1	20,026	42.46	20,026	42.46
Male	2	9,685	20.54	29,711	63.00
Male	3	17,452	37.00	47,163	100.00

Table 181. ELA04 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	73	39.25	73	39.25
American Indian/Alaska Native	2	39	20.97	112	60.22
American Indian/Alaska Native	3	74	39.78	186	100.00
Asian	1	1,797	17.89	1,797	17.89
Asian	2	1,875	18.66	3,672	36.55
Asian	3	6,375	63.45	10,047	100.00
Black/African American	1	6,828	51.81	6,828	51.81
Black/African American	2	2,752	20.88	9,580	72.70



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Black/African American	3	3,598	27.30	13,178	100.00
Hispanic/Latino	1	16,723	55.18	16,723	55.18
Hispanic/Latino	2	6,049	19.96	22,772	75.14
Hispanic/Latino	3	7,534	24.86	30,306	100.00
Native Hawaiian/Pacific Islander	1	58	33.53	58	33.53
Native Hawaiian/Pacific Islander	2	35	20.23	93	53.76
Native Hawaiian/Pacific Islander	3	80	46.24	173	100.00
White/Caucasian	1	10,055	28.09	10,055	28.09
White/Caucasian	2	8,090	22.60	18,145	50.69
White/Caucasian	3	17,648	49.31	35,793	100.00
Two or More Races Reported	1	922	29.18	922	29.18
Two or More Races Reported	2	644	20.38	1,566	49.56
Two or More Races Reported	3	1,594	50.44	3,160	100.00

Table 182. ELA04 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	18,608	30.26	18,608	30.26
Not Economically Disadvantaged	2	13,227	21.51	31,835	51.77
Not Economically Disadvantaged	3	29,660	48.23	61,495	100.00
Economically Disadvantaged	1	17,849	56.92	17,849	56.92
Economically Disadvantaged	2	6,264	19.98	24,113	76.90
Economically Disadvantaged	3	7,245	23.10	31,358	100.00



Table 183. ELA04 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	28,500	34.39	28,500	34.39
Not English Learner	2	18,185	21.94	46,685	56.33
Not English Learner	3	36,191	43.67	82,876	100.00
English Learner	1	7,962	79.76	7,962	79.76
English Learner	2	1,306	13.08	9,268	92.84
English Learner	3	715	7.16	9,983	100.00

Table 184. ELA04 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	25,339	33.96	25,339	33.96
Students without Disabilities	2	16,347	21.91	41,686	55.87
Students without Disabilities	3	32,921	44.13	74,607	100.00
Students with Disabilities	1	11,120	60.93	11,120	60.93
Students with Disabilities	2	3,144	17.23	14,264	78.16
Students with Disabilities	3	3,985	21.84	18,249	100.00

Table 185. ELA05 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	25,874	27.41	25,874	27.41
2	23,679	25.08	49,553	52.49
3	44,854	47.51	94,407	100.00

Table 186. ELA05 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	11,204	24.21	11,204	24.21
Female	2	11,375	24.58	22,579	48.78
Female	3	23,706	51.22	46,285	100.00





Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Male	1	14,667	30.48	14,667	30.48
Male	2	12,303	25.57	26,970	56.05
Male	3	21,144	43.95	48,114	100.00

Table 187. ELA05 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	54	31.40	54	31.40
American Indian/Alaska Native	2	31	18.02	85	49.42
American Indian/Alaska Native	3	87	50.58	172	100.00
Asian	1	964	9.21	964	9.21
Asian	2	1,744	16.66	2,708	25.87
Asian	3	7,758	74.13	10,466	100.00
Black/African American	1	5,503	39.85	5,503	39.85
Black/African American	2	3,695	26.76	9,198	66.61
Black/African American	3	4,611	33.39	13,809	100.00
Hispanic/Latino	1	12,399	40.94	12,399	40.94
Hispanic/Latino	2	8,277	27.33	20,676	68.27
Hispanic/Latino	3	9,609	31.73	30,285	100.00
Native Hawaiian/Pacific Islander	1	45	24.59	45	24.59
Native Hawaiian/Pacific Islander	2	51	27.87	96	52.46
Native Hawaiian/Pacific Islander	3	87	47.54	183	100.00
White/Caucasian	1	6,378	17.51	6,378	17.51
White/Caucasian	2	9,157	25.13	15,535	42.64
White/Caucasian	3	20,897	57.36	36,432	100.00
Two or More Races Reported	1	521	17.14	521	17.14
Two or More Races Reported	2	722	23.76	1,243	40.90



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Two or More Races Reported	3	1,796	59.10	3,039	100.00

Table 188. ELA05 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	12,594	20.05	12,594	20.05
Not Economically Disadvantaged	2	14,863	23.66	27,457	43.70
Not Economically Disadvantaged	3	35,368	56.30	62,825	100.00
Economically Disadvantaged	1	13,273	42.04	13,273	42.04
Economically Disadvantaged	2	8,815	27.92	22,088	69.96
Economically Disadvantaged	3	9,485	30.04	31,573	100.00

Table 189. ELA05 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	19,938	23.17	19,938	23.17
Not English Learner	2	22,043	25.62	41,981	48.79
Not English Learner	3	44,059	51.21	86,040	100.00
English Learner	1	5,934	70.94	5,934	70.94
English Learner	2	1,636	19.56	7,570	90.50
English Learner	3	795	9.50	8,365	100.00

Table 190. ELA05 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	16,515	22.01	16,515	22.01
Students without Disabilities	2	18,923	25.22	35,438	47.23
Students without Disabilities	3	39,587	52.77	75,025	100.00
Students with Disabilities	1	9,353	48.28	9,353	48.28



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students with Disabilities	2	4,754	24.54	14,107	72.81
Students with Disabilities	3	5,267	27.19	19,374	100.00

Table 191. ELA06 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	32,702	34.22	32,702	34.22
2	24,777	25.93	57,479	60.15
3	38,085	39.85	95,564	100.00

Table 192. ELA06 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	14,824	31.71	14,824	31.71
Female	2	12,491	26.72	27,315	58.43
Female	3	19,434	41.57	46,749	100.00
Male	1	17,873	36.63	17,873	36.63
Male	2	12,282	25.17	30,155	61.80
Male	3	18,639	38.20	48,794	100.00

Table 193. ELA06 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	56	33.73	56	33.73
American Indian/Alaska Native	2	39	23.49	95	57.23
American Indian/Alaska Native	3	71	42.77	166	100.00
Asian	1	1,395	13.51	1,395	13.51
Asian	2	2,131	20.64	3,526	34.15
Asian	3	6,799	65.85	10,325	100.00
Black/African American	1	6,366	47.17	6,366	47.17



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Black/African American	2	3,492	25.87	9,858	73.04
Black/African American	3	3,639	26.96	13,497	100.00
Hispanic/Latino	1	14,425	46.96	14,425	46.96
Hispanic/Latino	2	8,107	26.39	22,532	73.36
Hispanic/Latino	3	8,184	26.64	30,716	100.00
Native Hawaiian/Pacific Islander	1	48	25.40	48	25.40
Native Hawaiian/Pacific Islander	2	44	23.28	92	48.68
Native Hawaiian/Pacific Islander	3	97	51.32	189	100.00
White/Caucasian	1	9,622	25.45	9,622	25.45
White/Caucasian	2	10,259	27.13	19,881	52.58
White/Caucasian	3	17,932	47.42	37,813	100.00
Two or More Races Reported	1	782	27.53	782	27.53
Two or More Races Reported	2	702	24.71	1,484	52.24
Two or More Races Reported	3	1,357	47.76	2,841	100.00

Table 194. ELA06 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	17,412	27.09	17,412	27.09
Not Economically Disadvantaged	2	16,517	25.70	33,929	52.79
Not Economically Disadvantaged	3	30,347	47.21	64,276	100.00
Economically Disadvantaged	1	15,288	48.88	15,288	48.88
Economically Disadvantaged	2	8,257	26.40	23,545	75.27
Economically Disadvantaged	3	7,734	24.73	31,279	100.00

Table 195. ELA06 Support Classifications by English Learner



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	27,411	30.90	27,411	30.90
Not English Learner	2	23,612	26.62	51,023	57.52
Not English Learner	3	37,681	42.48	88,704	100.00
English Learner	1	5,289	77.17	5,289	77.17
English Learner	2	1,164	16.98	6,453	94.15
English Learner	3	401	5.85	6,854	100.00

Table 196. ELA06 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	21,719	28.62	21,719	28.62
Students without Disabilities	2	20,262	26.70	41,981	55.31
Students without Disabilities	3	33,918	44.69	75,899	100.00
Students with Disabilities	1	10,982	55.86	10,982	55.86
Students with Disabilities	2	4,513	22.96	15,495	78.82
Students with Disabilities	3	4,164	21.18	19,659	100.00

Table 197. ELA07 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	29,556	30.61	29,556	30.61
2	23,722	24.57	53,278	55.18
3	43,279	44.82	96,557	100.00

Table 198. ELA07 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	13,043	27.65	13,043	27.65
Female	2	11,452	24.28	24,495	51.94
Female	3	22,669	48.06	47,164	100.00
Male	1	16,502	33.44	16,502	33.44



Male	2	12,263	24.85	28,765	58.29
Male	3	20,584	41.71	49,349	100.00

Table 199. ELA07 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	52	30.23	52	30.23
American Indian/Alaska Native	2	44	25.58	96	55.81
American Indian/Alaska Native	3	76	44.19	172	100.00
Asian	1	1,310	12.57	1,310	12.57
Asian	2	1,852	17.78	3,162	30.35
Asian	3	7,257	69.65	10,419	100.00
Black/African American	1	5,659	40.50	5,659	40.50
Black/African American	2	3,787	27.10	9,446	67.61
Black/African American	3	4,526	32.39	13,972	100.00
Hispanic/Latino	1	13,194	43.26	13,194	43.26
Hispanic/Latino	2	7,908	25.93	21,102	69.18
Hispanic/Latino	3	9,399	30.82	30,501	100.00
Native Hawaiian/Pacific Islander	1	36	20.11	36	20.11
Native Hawaiian/Pacific Islander	2	57	31.84	93	51.96
Native Hawaiian/Pacific Islander	3	86	48.04	179	100.00
White/Caucasian	1	8,664	22.49	8,664	22.49
White/Caucasian	2	9,411	24.43	18,075	46.92
White/Caucasian	3	20,444	53.08	38,519	100.00



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Two or More Races Reported	1	631	22.71	631	22.71
Two or More Races Reported	2	662	23.83	1,293	46.54
Two or More Races Reported	3	1,485	53.46	2,778	100.00

Table 200. ELA07 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	16,073	24.49	16,073	24.49
Not Economically Disadvantaged	2	15,479	23.58	31,552	48.07
Not Economically Disadvantaged	3	34,080	51.93	65,632	100.00
Economically Disadvantaged	1	13,480	43.60	13,480	43.60
Economically Disadvantaged	2	8,242	26.66	21,722	70.25
Economically Disadvantaged	3	9,198	29.75	30,920	100.00

Table 201. ELA07 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	24,733	27.36	24,733	27.36
Not English Learner	2	22,728	25.14	47,461	52.50
Not English Learner	3	42,935	47.50	90,396	100.00
English Learner	1	4,822	78.30	4,822	78.30
English Learner	2	993	16.13	5,815	94.43
English Learner	3	343	5.57	6,158	100.00



Table 202. ELA07 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	19,541	25.42	19,541	25.42
Students without Disabilities	2	18,840	24.51	38,381	49.94
Students without Disabilities	3	38,479	50.06	76,860	100.00
Students with Disabilities	1	10,014	50.85	10,014	50.85
Students with Disabilities	2	4,881	24.78	14,895	75.63
Students with Disabilities	3	4,799	24.37	19,694	100.00

Table 203. ELA08 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	33,353	33.44	33,353	33.44
2	19,681	19.73	53,034	53.17
3	46,711	46.83	99,745	100.00

Table 204. ELA08 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	14,630	30.18	14,630	30.18
Female	2	9,722	20.05	24,352	50.23
Female	3	24,131	49.77	48,483	100.00
Male	1	18,716	36.55	18,716	36.55
Male	2	9,951	19.43	28,667	55.98
Male	3	22,541	44.02	51,208	100.00

Table 205. ELA08 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	55	37.93	55	37.93





Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	2	31	21.38	86	59.31
American Indian/Alaska Native	3	59	40.69	145	100.00
Asian	1	1,313	12.45	1,313	12.45
Asian	2	1,582	15.00	2,895	27.45
Asian	3	7,653	72.55	10,548	100.00
Black/African American	1	7,097	48.25	7,097	48.25
Black/African American	2	3,046	20.71	10,143	68.96
Black/African American	3	4,566	31.04	14,709	100.00
Hispanic/Latino	1	14,722	46.92	14,722	46.92
Hispanic/Latino	2	6,450	20.56	21,172	67.48
Hispanic/Latino	3	10,205	32.52	31,377	100.00
Native Hawaiian/Pacific Islander	1	50	24.27	50	24.27
Native Hawaiian/Pacific Islander	2	47	22.82	97	47.09
Native Hawaiian/Pacific Islander	3	109	52.91	206	100.00
White/Caucasian	1	9,415	23.47	9,415	23.47
White/Caucasian	2	8,042	20.05	17,457	43.52
White/Caucasian	3	22,655	56.48	40,112	100.00
Two or More Races Reported	1	701	26.51	701	26.51
Two or More Races Reported	2	482	18.23	1,183	44.74
Two or More Races Reported	3	1,461	55.26	2,644	100.00

Table 206. ELA08 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	18,121	26.54	18,121	26.54
Not Economically Disadvantaged	2	13,147	19.25	31,268	45.79



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	3	37,014	54.21	68,282	100.00
Economically Disadvantaged	1	15,229	48.42	15,229	48.42
Economically Disadvantaged	2	6,532	20.77	21,761	69.18
Economically Disadvantaged	3	9,693	30.82	31,454	100.00

Table 207. ELA08 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	28,437	30.23	28,437	30.23
Not English Learner	2	19,172	20.38	47,609	50.61
Not English Learner	3	46,470	49.39	94,079	100.00
English Learner	1	4,913	86.83	4,913	86.83
English Learner	2	508	8.98	5,421	95.81
English Learner	3	237	4.19	5,658	100.00

Table 208. ELA08 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	21,830	27.50	21,830	27.50
Students without Disabilities	2	15,940	20.08	37,770	47.58
Students without Disabilities	3	41,606	52.42	79,376	100.00
Students with Disabilities	1	11,520	56.58	11,520	56.58
Students with Disabilities	2	3,740	18.37	15,260	74.95
Students with Disabilities	3	5,100	25.05	20,360	100.00



Table 209. ELA09 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	34,386	34.74	34,386	34.74
2	14,471	14.62	48,857	49.36
3	50,127	50.64	98,984	100.00

Table 210. ELA09 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	14,159	29.22	14,159	29.22
Female	2	7,045	14.54	21,204	43.76
Female	3	27,251	56.24	48,455	100.00
Male	1	20,196	40.07	20,196	40.07
Male	2	7,409	14.70	27,605	54.77
Male	3	22,800	45.23	50,405	100.00

Table 211. ELA09 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	60	36.14	60	36.14
American Indian/Alaska Native	2	27	16.27	87	52.41
American Indian/Alaska Native	3	79	47.59	166	100.00
Asian	1	1,450	13.69	1,450	13.69
Asian	2	1,180	11.14	2,630	24.83
Asian	3	7,963	75.17	10,593	100.00
Black/African American	1	6,654	46.36	6,654	46.36
Black/African American	2	2,199	15.32	8,853	61.68
Black/African American	3	5,499	38.32	14,352	100.00
Hispanic/Latino	1	14,606	46.19	14,606	46.19
Hispanic/Latino	2	4,699	14.86	19,305	61.05
Hispanic/Latino	3	12,315	38.95	31,620	100.00



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Native Hawaiian/Pacific Islander	1	51	28.33	51	28.33
Native Hawaiian/Pacific Islander	2	34	18.89	85	47.22
Native Hawaiian/Pacific Islander	3	95	52.78	180	100.00
White/Caucasian	1	10,865	27.46	10,865	27.46
White/Caucasian	2	5,979	15.11	16,844	42.57
White/Caucasian	3	22,727	57.43	39,571	100.00
Two or More Races Reported	1	692	27.89	692	27.89
Two or More Races Reported	2	352	14.19	1,044	42.08
Two or More Races Reported	3	1,437	57.92	2,481	100.00

Table 212. ELA09 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	20,145	29.03	20,145	29.03
Not Economically Disadvantaged	2	9,918	14.29	30,063	43.33
Not Economically Disadvantaged	3	39,320	56.67	69,383	100.00
Economically Disadvantaged	1	14,241	48.11	14,241	48.11
Economically Disadvantaged	2	4,553	15.38	18,794	63.49
Economically Disadvantaged	3	10,806	36.51	29,600	100.00

Table 213. ELA09 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	29,892	31.92	29,892	31.92
Not English Learner	2	14,035	14.99	43,927	46.90
Not English Learner	3	49,728	53.10	93,655	100.00
English Learner	1	4,494	84.35	4,494	84.35



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English Learner	2	436	8.18	4,930	92.53
English Learner	3	398	7.47	5,328	100.00

Table 214. ELA09 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	23,643	29.50	23,643	29.50
Students without Disabilities	2	11,813	14.74	35,456	44.25
Students without Disabilities	3	44,678	55.75	80,134	100.00
Students with Disabilities	1	10,743	57.00	10,743	57.00
Students with Disabilities	2	2,657	14.10	13,400	71.10
Students with Disabilities	3	5,448	28.90	18,848	100.00

Table 215. ELA10 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	31,240	31.65	31,240	31.65
2	19,336	19.59	50,576	51.24
3	48,131	48.76	98,707	100.00

Table 216. ELA10 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	12,736	26.36	12,736	26.36
Female	2	9,320	19.29	22,056	45.66
Female	3	26,251	54.34	48,307	100.00
Male	1	18,487	36.77	18,487	36.77
Male	2	10,002	19.89	28,489	56.67
Male	3	21,786	43.33	50,275	100.00



Table 217. ELA10 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	50	34.72	50	34.72
American Indian/Alaska Native	2	29	20.14	79	54.86
American Indian/Alaska Native	3	65	45.14	144	100.00
Asian	1	1,319	12.64	1,319	12.64
Asian	2	1,571	15.06	2,890	27.70
Asian	3	7,545	72.30	10,435	100.00
Black/African American	1	5,644	41.00	5,644	41.00
Black/African American	2	2,863	20.80	8,507	61.79
Black/African American	3	5,260	38.21	13,767	100.00
Hispanic/Latino	1	13,874	44.17	13,874	44.17
Hispanic/Latino	2	6,343	20.19	20,217	64.36
Hispanic/Latino	3	11,195	35.64	31,412	100.00
Native Hawaiian/Pacific Islander	1	43	20.48	43	20.48
Native Hawaiian/Pacific Islander	2	42	20.00	85	40.48
Native Hawaiian/Pacific Islander	3	125	59.52	210	100.00
White/Caucasian	1	9,728	24.09	9,728	24.09
White/Caucasian	2	8,068	19.98	17,796	44.07
White/Caucasian	3	22,585	55.93	40,381	100.00
Two or More Races Reported	1	575	24.46	575	24.46
Two or More Races Reported	2	420	17.86	995	42.32
Two or More Races Reported	3	1,356	57.68	2,351	100.00



Table 218. ELA10 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	18,565	26.54	18,565	26.54
Not Economically Disadvantaged	2	13,437	19.21	32,002	45.75
Not Economically Disadvantaged	3	37,951	54.25	69,953	100.00
Economically Disadvantaged	1	12,675	44.08	12,675	44.08
Economically Disadvantaged	2	5,898	20.51	18,573	64.59
Economically Disadvantaged	3	10,180	35.41	28,753	100.00

Table 219. ELA10 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	26,589	28.52	26,589	28.52
Not English Learner	2	18,807	20.17	45,396	48.69
Not English Learner	3	47,836	51.31	93,232	100.00
English Learner	1	4,651	84.95	4,651	84.95
English Learner	2	529	9.66	5,180	94.61
English Learner	3	295	5.39	5,475	100.00

Table 220. ELA10 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	21,312	26.78	21,312	26.78
Students without Disabilities	2	15,714	19.75	37,026	46.53
Students without Disabilities	3	42,554	53.47	79,580	100.00
Students with Disabilities	1	9,927	51.91	9,927	51.91
Students with Disabilities	2	3,621	18.93	13,548	70.84
Students with Disabilities	3	5,577	29.16	19,125	100.00



## Math

Table 221. MAT04 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	35,687	38.58	35,687	38.58
2	22,522	24.35	58,209	62.93
3	34,283	37.07	92,492	100.00

Table 222. MAT04 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	18,264	40.27	18,264	40.27
Female	2	11,462	25.27	29,726	65.54
Female	3	15,632	34.46	45,358	100.00
Male	1	17,420	36.96	17,420	36.96
Male	2	11,059	23.47	28,479	60.43
Male	3	18,647	39.57	47,126	100.00

Table 223. MAT04 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	64	35.16	64	35.16
American Indian/Alaska Native	2	41	22.53	105	57.69
American Indian/Alaska Native	3	77	42.31	182	100.00
Asian	1	1,112	11.03	1,112	11.03
Asian	2	1,603	15.90	2,715	26.93
Asian	3	7,368	73.07	10,083	100.00
Black/African American	1	7,534	58.07	7,534	58.07
Black/African American	2	3,076	23.71	10,610	81.78
Black/African American	3	2,364	18.22	12,974	100.00
Hispanic/Latino	1	16,859	55.52	16,859	55.52





Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Hispanic/Latino	2	7,559	24.89	24,418	80.41
Hispanic/Latino	3	5,948	19.59	30,366	100.00
Native Hawaiian/Pacific Islander	1	57	32.57	57	32.57
Native Hawaiian/Pacific Islander	2	46	26.29	103	58.86
Native Hawaiian/Pacific Islander	3	72	41.14	175	100.00
White/Caucasian	1	9,079	25.52	9,079	25.52
White/Caucasian	2	9,516	26.75	18,595	52.27
White/Caucasian	3	16,983	47.73	35,578	100.00
Two or More Races Reported	1	975	31.28	975	31.28
Two or More Races Reported	2	673	21.59	1,648	52.87
Two or More Races Reported	3	1,469	47.13	3,117	100.00

Table 224. MAT04 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	17,471	28.50	17,471	28.50
Not Economically Disadvantaged	2	15,005	24.47	32,476	52.97
Not Economically Disadvantaged	3	28,835	47.03	61,311	100.00
Economically Disadvantaged	1	18,209	58.41	18,209	58.41
Economically Disadvantaged	2	7,516	24.11	25,725	82.53
Economically Disadvantaged	3	5,447	17.47	31,172	100.00

Table 225. MAT04 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	28,221	34.45	28,221	34.45
Not English Learner	2	20,361	24.85	48,582	59.30



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	3	33,346	40.70	81,928	100.00
English Learner	1	7,465	70.68	7,465	70.68
English Learner	2	2,160	20.45	9,625	91.13
English Learner	3	937	8.87	10,562	100.00

Table 226. MAT04 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	24,824	33.41	24,824	33.41
Students without Disabilities	2	18,832	25.34	43,656	58.75
Students without Disabilities	3	30,650	41.25	74,306	100.00
Students with Disabilities	1	10,859	59.73	10,859	59.73
Students with Disabilities	2	3,689	20.29	14,548	80.02
Students with Disabilities	3	3,633	19.98	18,181	100.00

Table 227. MAT04 Support Classifications by Language Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	33,770	37.47	33,770	37.47
English	2	22,180	24.61	55,950	62.07
English	3	34,183	37.93	90,133	100.00
Spanish	1	1,917	81.26	1,917	81.26
Spanish	2	342	14.50	2,259	95.76
Spanish	3	100	4.24	2,359	100.00

Table 228. MAT05 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	41,997	45.31	41,997	45.31
2	20,597	22.22	62,594	67.54
3	30,085	32.46	92,679	100.00



Table 229. MAT05 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	21,513	47.72	21,513	47.72
Female	2	10,248	22.73	31,761	70.45
Female	3	13,322	29.55	45,083	100.00
Male	1	20,481	43.04	20,481	43.04
Male	2	10,349	21.75	30,830	64.78
Male	3	16,759	35.22	47,589	100.00

Table 230. MAT05 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	77	46.11	77	46.11
American Indian/Alaska Native	2	29	17.37	106	63.47
American Indian/Alaska Native	3	61	36.53	167	100.00
Asian	1	1,368	13.14	1,368	13.14
Asian	2	1,743	16.75	3,111	29.89
Asian	3	7,296	70.11	10,407	100.00
Black/African American	1	9,019	68.32	9,019	68.32
Black/African American	2	2,402	18.19	11,421	86.51
Black/African American	3	1,781	13.49	13,202	100.00
Hispanic/Latino	1	18,991	63.63	18,991	63.63
Hispanic/Latino	2	5,982	20.04	24,973	83.68
Hispanic/Latino	3	4,871	16.32	29,844	100.00
Native Hawaiian/Pacific Islander	1	66	37.29	66	37.29
Native Hawaiian/Pacific Islander	2	49	27.68	115	64.97



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Native Hawaiian/Pacific Islander	3	62	35.03	177	100.00
White/Caucasian	1	11,417	31.80	11,417	31.80
White/Caucasian	2	9,720	27.08	21,137	58.88
White/Caucasian	3	14,761	41.12	35,898	100.00
Two or More Races Reported	1	1,043	35.18	1,043	35.18
Two or More Races Reported	2	671	22.63	1,714	57.81
Two or More Races Reported	3	1,251	42.19	2,965	100.00

Table 231. MAT05 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	21,490	34.78	21,490	34.78
Not Economically Disadvantaged	2	14,642	23.70	36,132	58.48
Not Economically Disadvantaged	3	25,656	41.52	61,788	100.00
Economically Disadvantaged	1	20,498	66.38	20,498	66.38
Economically Disadvantaged	2	5,955	19.28	26,453	85.66
Economically Disadvantaged	3	4,429	14.34	30,882	100.00

Table 232. MAT05 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	34,722	41.44	34,722	41.44
Not English Learner	2	19,526	23.30	54,248	64.74
Not English Learner	3	29,541	35.26	83,789	100.00
English Learner	1	7,273	81.83	7,273	81.83
English Learner	2	1,071	12.05	8,344	93.88
English Learner	3	544	6.12	8,888	100.00



Table 233. MAT05 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	29,133	39.68	29,133	39.68
Students without Disabilities	2	17,255	23.50	46,388	63.18
Students without Disabilities	3	27,037	36.82	73,425	100.00
Students with Disabilities	1	12,856	66.80	12,856	66.80
Students with Disabilities	2	3,341	17.36	16,197	84.16
Students with Disabilities	3	3,048	15.84	19,245	100.00

Table 234. MAT05 Support Classifications by Language Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	40,068	44.26	40,068	44.26
English	2	20,426	22.56	60,494	66.83
English	3	30,030	33.17	90,524	100.00
Spanish	1	1,929	89.51	1,929	89.51
Spanish	2	171	7.94	2,100	97.45
Spanish	3	55	2.55	2,155	100.00

Table 235. MAT06 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	43,679	45.72	43,679	45.72
2	25,340	26.52	69,019	72.24
3	26,526	27.76	95,545	100.00

Table 236. MAT06 Support Classifications by Gender



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	21,727	46.58	21,727	46.58
Female	2	13,176	28.24	34,903	74.82
Female	3	11,746	25.18	46,649	100.00
Male	1	21,943	44.90	21,943	44.90
Male	2	12,154	24.87	34,097	69.77
Male	3	14,777	30.23	48,874	100.00

Table 237. MAT06 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	77	46.95	77	46.95
American Indian/Alaska Native	2	35	21.34	112	68.29
American Indian/Alaska Native	3	52	31.71	164	100.00
Asian	1	1,284	12.46	1,284	12.46
Asian	2	2,067	20.06	3,351	32.53
Asian	3	6,951	67.47	10,302	100.00
Black/African American	1	9,001	67.37	9,001	67.37
Black/African American	2	2,958	22.14	11,959	89.51
Black/African American	3	1,402	10.49	13,361	100.00
Hispanic/Latino	1	19,429	62.84	19,429	62.84
Hispanic/Latino	2	7,539	24.38	26,968	87.22
Hispanic/Latino	3	3,950	12.78	30,918	100.00
Native Hawaiian/Pacific Islander	1	60	32.43	60	32.43
Native Hawaiian/Pacific Islander	2	47	25.41	107	57.84
Native Hawaiian/Pacific Islander	3	78	42.16	185	100.00
White/Caucasian	1	12,755	33.76	12,755	33.76
White/Caucasian	2	11,912	31.53	24,667	65.29



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
White/Caucasian	3	13,113	34.71	37,780	100.00
Two or More Races Reported	1	1,063	37.72	1,063	37.72
Two or More Races Reported	2	777	27.57	1,840	65.29
Two or More Races Reported	3	978	34.71	2,818	100.00

Table 238. MAT06 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	23,021	35.78	23,021	35.78
Not Economically Disadvantaged	2	18,172	28.24	41,193	64.03
Not Economically Disadvantaged	3	23,145	35.97	64,338	100.00
Economically Disadvantaged	1	20,650	66.19	20,650	66.19
Economically Disadvantaged	2	7,166	22.97	27,816	89.17
Economically Disadvantaged	3	3,380	10.83	31,196	100.00

Table 239. MAT06 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	37,414	42.48	37,414	42.48
Not English Learner	2	24,344	27.64	61,758	70.12
Not English Learner	3	26,322	29.88	88,080	100.00
English Learner	1	6,261	83.94	6,261	83.94
English Learner	2	995	13.34	7,256	97.28
English Learner	3	203	2.72	7,459	100.00

Table 240. MAT06 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	30,405	40.04	30,405	40.04



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	2	21,360	28.13	51,765	68.17
Students without Disabilities	3	24,165	31.83	75,930	100.00
Students with Disabilities	1	13,270	67.67	13,270	67.67
Students with Disabilities	2	3,979	20.29	17,249	87.96
Students with Disabilities	3	2,360	12.04	19,609	100.00





Table 241. MAT06 Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	41,861	44.76	41,861	44.76
English	2	25,156	26.90	67,017	71.66
English	3	26,504	28.34	93,521	100.00
Spanish	1	1,818	89.82	1,818	89.82
Spanish	2	184	9.09	2,002	98.91
Spanish	3	22	1.09	2,024	100.00

Table 242. MAT07 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	37,128	40.31	37,128	40.31
2	29,632	32.17	66,760	72.48
3	25,345	27.52	92,105	100.00

Table 243. MAT07 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	18,439	40.81	18,439	40.81
Female	2	14,901	32.98	33,340	73.79
Female	3	11,843	26.21	45,183	100.00
Male	1	18,673	39.83	18,673	39.83
Male	2	14,712	31.38	33,385	71.22
Male	3	13,494	28.78	46,879	100.00

Table 244. MAT07 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	67	41.36	67	41.36
American Indian/Alaska Native	2	55	33.95	122	75.31
American Indian/Alaska Native	3	40	24.69	162	100.00



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Asian	1	1,091	13.21	1,091	13.21
Asian	2	2,184	26.44	3,275	39.65
Asian	3	4,984	60.35	8,259	100.00
Black/African American	1	8,164	60.10	8,164	60.10
Black/African American	2	3,659	26.93	11,823	87.03
Black/African American	3	1,762	12.97	13,585	100.00
Hispanic/Latino	1	16,900	55.79	16,900	55.79
Hispanic/Latino	2	9,119	30.10	26,019	85.89
Hispanic/Latino	3	4,275	14.11	30,294	100.00
Native Hawaiian/Pacific Islander	1	50	30.67	50	30.67
Native Hawaiian/Pacific Islander	2	56	34.36	106	65.03
Native Hawaiian/Pacific Islander	3	57	34.97	163	100.00
White/Caucasian	1	9,980	26.96	9,980	26.96
White/Caucasian	2	13,688	36.97	23,668	63.93
White/Caucasian	3	13,356	36.07	37,024	100.00
Two or More Races Reported	1	864	33.19	864	33.19
Two or More Races Reported	2	870	33.42	1,734	66.62
Two or More Races Reported	3	869	33.38	2,603	100.00



Table 245. MAT07 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	19,376	31.45	19,376	31.45
Not Economically Disadvantaged	2	20,869	33.88	40,245	65.33
Not Economically Disadvantaged	3	21,355	34.67	61,600	100.00
Economically Disadvantaged	1	17,749	58.19	17,749	58.19
Economically Disadvantaged	2	8,762	28.73	26,511	86.92
Economically Disadvantaged	3	3,989	13.08	30,500	100.00

Table 246. MAT07 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	31,636	37.05	31,636	37.05
Not English Learner	2	28,589	33.48	60,225	70.53
Not English Learner	3	25,159	29.47	85,384	100.00
English Learner	1	5,491	81.74	5,491	81.74
English Learner	2	1,042	15.51	6,533	97.25
English Learner	3	185	2.75	6,718	100.00

Table 247. MAT07 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	24,368	33.53	24,368	33.53
Students without Disabilities	2	25,198	34.67	49,566	68.20
Students without Disabilities	3	23,115	31.80	72,681	100.00
Students with Disabilities	1	12,759	65.70	12,759	65.70
Students with Disabilities	2	4,433	22.83	17,192	88.52
Students with Disabilities	3	2,229	11.48	19,421	100.00



Table 248. MAT07 Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	35,350	39.25	35,350	39.25
English	2	29,386	32.63	64,736	71.88
English	3	25,319	28.12	90,055	100.00
Spanish	1	1,778	86.73	1,778	86.73
Spanish	2	246	12.00	2,024	98.73
Spanish	3	26	1.27	2,050	100.00

Table 249. MAT08 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	32,725	46.20	32,725	46.20
2	24,121	34.05	56,846	80.26
3	13,984	19.74	70,830	100.00

Table 250. MAT08 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	17,206	50.41	17,206	50.41
Female	2	11,119	32.57	28,325	82.98
Female	3	5,810	17.02	34,135	100.00
Male	1	15,509	42.31	15,509	42.31
Male	2	12,982	35.42	28,491	77.73
Male	3	8,164	22.27	36,655	100.00



Table 251. MAT08 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	59	54.13	59	54.13
American Indian/Alaska Native	2	35	32.11	94	86.24
American Indian/Alaska Native	3	15	13.76	109	100.00
Asian	1	901	23.48	901	23.48
Asian	2	1,246	32.47	2,147	55.96
Asian	3	1,690	44.04	3,837	100.00
Black/African American	1	7,712	63.25	7,712	63.25
Black/African American	2	3,279	26.89	10,991	90.14
Black/African American	3	1,202	9.86	12,193	100.00
Hispanic/Latino	1	14,548	55.94	14,548	55.94
Hispanic/Latino	2	8,136	31.29	22,684	87.23
Hispanic/Latino	3	3,322	12.77	26,006	100.00
Native Hawaiian/Pacific Islander	1	49	36.30	49	36.30
Native Hawaiian/Pacific Islander	2	50	37.04	99	73.33
Native Hawaiian/Pacific Islander	3	36	26.67	135	100.00
White/Caucasian	1	8,718	32.55	8,718	32.55
White/Caucasian	2	10,749	40.14	19,467	72.69
White/Caucasian	3	7,314	27.31	26,781	100.00
Two or More Races Reported	1	735	41.67	735	41.67
Two or More Races Reported	2	626	35.49	1,361	77.15
Two or More Races Reported	3	403	22.85	1,764	100.00



Table 252. MAT08 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	17,392	39.20	17,392	39.20
Not Economically Disadvantaged	2	16,166	36.43	33,558	75.63
Not Economically Disadvantaged	3	10,814	24.37	44,372	100.00
Economically Disadvantaged	1	15,328	57.95	15,328	57.95
Economically Disadvantaged	2	7,953	30.07	23,281	88.02
Economically Disadvantaged	3	3,169	11.98	26,450	100.00

Table 253. MAT08 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	28,250	43.28	28,250	43.28
Not English Learner	2	23,187	35.52	51,437	78.80
Not English Learner	3	13,838	21.20	65,275	100.00
English Learner	1	4,471	80.59	4,471	80.59
English Learner	2	932	16.80	5,403	97.39
English Learner	3	145	2.61	5,548	100.00

Table 254. MAT08 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	21,152	39.96	21,152	39.96
Students without Disabilities	2	19,537	36.91	40,689	76.87
Students without Disabilities	3	12,244	23.13	52,933	100.00
Students with Disabilities	1	11,569	64.67	11,569	64.67
Students with Disabilities	2	4,581	25.61	16,150	90.28
Students with Disabilities	3	1,739	9.72	17,889	100.00



Table 255. MAT08 Support Classifications by Language Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	31,232	45.21	31,232	45.21
English	2	23,894	34.59	55,126	79.79
English	3	13,961	20.21	69,087	100.00
Spanish	1	1,493	85.66	1,493	85.66
Spanish	2	227	13.02	1,720	98.68
Spanish	3	23	1.32	1,743	100.00

Table 256. ALG01 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	57,561	55.95	57,561	55.95
2	24,890	24.20	82,451	80.15
3	20,420	19.85	102,871	100.00

Table 257. ALG01 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	27,806	56.20	27,806	56.20
Female	2	12,327	24.91	40,133	81.11
Female	3	9,348	18.89	49,481	100.00
Male	1	29,702	55.74	29,702	55.74
Male	2	12,532	23.52	42,234	79.26
Male	3	11,050	20.74	53,284	100.00

Table 258. ALG01 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	100	57.47	100	57.47
American Indian/Alaska Native	2	36	20.69	136	78.16
American Indian/Alaska Native	3	38	21.84	174	100.00



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Asian	1	2,564	24.64	2,564	24.64
Asian	2	2,638	25.35	5,202	50.00
Asian	3	5,203	50.00	10,405	100.00
Black/African American	1	11,317	74.37	11,317	74.37
Black/African American	2	2,666	17.52	13,983	91.89
Black/African American	3	1,234	8.11	15,217	100.00
Hispanic/Latino	1	23,783	69.71	23,783	69.71
Hispanic/Latino	2	6,696	19.63	30,479	89.34
Hispanic/Latino	3	3,637	10.66	34,116	100.00
Native Hawaiian/Pacific Islander	1	102	49.04	102	49.04
Native Hawaiian/Pacific Islander	2	58	27.88	160	76.92
Native Hawaiian/Pacific Islander	3	48	23.08	208	100.00
White/Caucasian	1	18,427	45.85	18,427	45.85
White/Caucasian	2	12,150	30.23	30,577	76.08
White/Caucasian	3	9,615	23.92	40,192	100.00
Two or More Races Reported	1	1,258	49.43	1,258	49.43
Two or More Races Reported	2	645	25.34	1,903	74.77
Two or More Races Reported	3	642	25.23	2,545	100.00

Table 259. ALG01 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	35,096	49.08	35,096	49.08
Not Economically Disadvantaged	2	19,034	26.62	54,130	75.69
Not Economically Disadvantaged	3	17,381	24.31	71,511	100.00
Economically Disadvantaged	1	22,465	71.64	22,465	71.64





Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Economically Disadvantaged	2	5,856	18.67	28,321	90.31
Economically Disadvantaged	3	3,038	9.69	31,359	100.00

Table 260. ALG01 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	51,236	53.57	51,236	53.57
Not English Learner	2	24,225	25.33	75,461	78.90
Not English Learner	3	20,185	21.10	95,646	100.00
English Learner	1	6,325	87.56	6,325	87.56
English Learner	2	665	9.21	6,990	96.76
English Learner	3	234	3.24	7,224	100.00

Table 261. ALG01 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	41,947	50.97	41,947	50.97
Students without Disabilities	2	21,619	26.27	63,566	77.24
Students without Disabilities	3	18,728	22.76	82,294	100.00
Students with Disabilities	1	15,613	75.88	15,613	75.88
Students with Disabilities	2	3,271	15.90	18,884	91.78
Students with Disabilities	3	1,691	8.22	20,575	100.00

Table 262. ALG01 Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	55,448	55.15	55,448	55.15
English	2	24,710	24.58	80,158	79.73
English	3	20,377	20.27	100,535	100.00
Spanish	1	2,113	90.45	2,113	90.45



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Spanish	2	180	7.71	2,293	98.16
Spanish	3	43	1.84	2,336	100.00

Table 263. GEO01 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	47,660	49.83	47,660	49.83
2	20,415	21.34	68,075	71.17
3	27,579	28.83	95,654	100.00

Table 264. GEO001 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	22,936	49.29	22,936	49.29
Female	2	10,585	22.75	33,521	72.04
Female	3	13,008	27.96	46,529	100.00
Male	1	24,675	50.35	24,675	50.35
Male	2	9,798	19.99	34,473	70.34
Male	3	14,533	29.66	49,006	100.00

Table 265. GEO01 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	91	55.83	91	55.83
American Indian/Alaska Native	2	27	16.56	118	72.39
American Indian/Alaska Native	3	45	27.61	163	100.00
Asian	1	1,766	18.63	1,766	18.63
Asian	2	1,583	16.70	3,349	35.33
Asian	3	6,131	64.67	9,480	100.00
Black/African American	1	9,269	68.04	9,269	68.04
Black/African American	2	2,485	18.24	11,754	86.28



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Black/African American	3	1,869	13.72	13,623	100.00
Hispanic/Latino	1	20,138	65.74	20,138	65.74
Hispanic/Latino	2	5,863	19.14	26,001	84.88
Hispanic/Latino	3	4,631	15.12	30,632	100.00
Native Hawaiian/Pacific Islander	1	71	38.80	71	38.80
Native Hawaiian/Pacific Islander	2	46	25.14	117	63.93
Native Hawaiian/Pacific Islander	3	66	36.07	183	100.00
White/Caucasian	1	15,286	39.01	15,286	39.01
White/Caucasian	2	9,876	25.21	25,162	64.22
White/Caucasian	3	14,019	35.78	39,181	100.00
Two or More Races Reported	1	1,032	43.38	1,032	43.38
Two or More Races Reported	2	535	22.49	1,567	65.87
Two or More Races Reported	3	812	34.13	2,379	100.00

Table 266. GEO01 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	28,956	42.81	28,956	42.81
Not Economically Disadvantaged	2	15,061	22.27	44,017	65.07
Not Economically Disadvantaged	3	23,627	34.93	67,644	100.00
Economically Disadvantaged	1	18,703	66.77	18,703	66.77
Economically Disadvantaged	2	5,354	19.12	24,057	85.89
Economically Disadvantaged	3	3,952	14.11	28,009	100.00



Table 267. GEO01 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	42,427	47.25	42,427	47.25
Not English Learner	2	19,949	22.22	62,376	69.47
Not English Learner	3	27,410	30.53	89,786	100.00
English Learner	1	5,233	89.18	5,233	89.18
English Learner	2	466	7.94	5,699	97.12
English Learner	3	169	2.88	5,868	100.00

Table 268. GEO01 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	33,974	44.10	33,974	44.10
Students without Disabilities	2	17,676	22.94	51,650	67.04
Students without Disabilities	3	25,397	32.96	77,047	100.00
Students with Disabilities	1	13,685	73.55	13,685	73.55
Students with Disabilities	2	2,739	14.72	16,424	88.27
Students with Disabilities	3	2,182	11.73	18,606	100.00

Table 269. GEO01 Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	45,954	48.99	45,954	48.99
English	2	20,289	21.63	66,243	70.62
English	3	27,563	29.38	93,806	100.00
Spanish	1	1,706	92.32	1,706	92.32
Spanish	2	126	6.82	1,832	99.13
Spanish	3	16	0.87	1,848	100.00



Table 270. ALG02 Support Classifications

Support Level	Count	Percent	Cumulative Count	Cumulative Percent
1	29,065	34.03	29,065	34.03
2	25,865	30.29	54,930	64.32
3	30,470	35.68	85,400	100.00

Table 271. ALG02 Support Classifications by Gender

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Female	1	14,369	33.79	14,369	33.79
Female	2	13,384	31.47	27,753	65.27
Female	3	14,770	34.73	42,523	100.00
Male	1	14,664	34.28	14,664	34.28
Male	2	12,449	29.11	27,113	63.39
Male	3	15,658	36.61	42,771	100.00

Table 272. ALG02 Support Classifications by Ethnicity

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
American Indian/Alaska Native	1	54	43.55	54	43.55
American Indian/Alaska Native	2	25	20.16	79	63.71
American Indian/Alaska Native	3	45	36.29	124	100.00
Asian	1	985	9.73	985	9.73
Asian	2	1,863	18.40	2,848	28.13
Asian	3	7,277	71.87	10,125	100.00
Black/African American	1	5,819	54.21	5,819	54.21
Black/African American	2	3,257	30.34	9,076	84.55
Black/African American	3	1,659	15.45	10,735	100.00
Hispanic/Latino	1	12,540	49.55	12,540	49.55
Hispanic/Latino	2	7,965	31.47	20,505	81.02
Hispanic/Latino	3	4,805	18.98	25,310	100.00



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Native Hawaiian/Pacific Islander	1	77	32.22	77	32.22
Native Hawaiian/Pacific Islander	2	79	33.05	156	65.27
Native Hawaiian/Pacific Islander	3	83	34.73	239	100.00
White/Caucasian	1	9,052	24.55	9,052	24.55
White/Caucasian	2	12,092	32.80	21,144	57.35
White/Caucasian	3	15,723	42.65	36,867	100.00
Two or More Races Reported	1	533	26.76	533	26.76
Two or More Races Reported	2	582	29.22	1,115	55.97
Two or More Races Reported	3	877	44.03	1,992	100.00

Table 273. ALG02 Support Classifications by Economic Status

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not Economically Disadvantaged	1	17,797	28.18	17,797	28.18
Not Economically Disadvantaged	2	18,927	29.97	36,724	58.14
Not Economically Disadvantaged	3	26,438	41.86	63,162	100.00
Economically Disadvantaged	1	11,268	50.67	11,268	50.67
Economically Disadvantaged	2	6,938	31.20	18,206	81.87
Economically Disadvantaged	3	4,032	18.13	22,238	100.00

Table 274. ALG02 Support Classifications by English Learner

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Not English Learner	1	26,169	32.11	26,169	32.11
Not English Learner	2	25,091	30.79	51,260	62.89
Not English Learner	3	30,243	37.11	81,503	100.00
English Learner	1	2,896	74.31	2,896	74.31



Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English Learner	2	774	19.86	3,670	94.18
English Learner	3	227	5.82	3,897	100.00

Table 275. ALG02 Support Classifications by Disability

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
Students without Disabilities	1	21,327	29.94	21,327	29.94
Students without Disabilities	2	21,969	30.84	43,296	60.78
Students without Disabilities	3	27,943	39.22	71,239	100.00
Students with Disabilities	1	7,737	54.64	7,737	54.64
Students with Disabilities	2	3,896	27.51	11,633	82.15
Students with Disabilities	3	2,527	17.85	14,160	100.00

Table 276. ALG02 Support Classifications by Language

Group	Support Level	Count	Percent	Cumulative Count	Cumulative Percent
English	1	28,249	33.47	28,249	33.47
English	2	25,697	30.45	53,946	63.92
English	3	30,451	36.08	84,397	100.00
Spanish	1	816	81.36	816	81.36
Spanish	2	168	16.75	984	98.11
Spanish	3	19	1.89	1,003	100.00



## Appendix K. Reliability

### ELA

Table 277. ELA04 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.56	0.73	20
Female	20	1.53	0.72	20
Male	20	1.58	0.74	20
American Indian/Alaska Native	20	1.54	0.72	20
Asian	20	1.40	0.69	20
Black/African American	20	1.48	0.71	20
Hispanic/Latino	20	1.46	0.70	20
Native Hawaiian/Pacific Islander	19	1.59	0.74	19
White/Caucasian	20	1.41	0.69	20
Two or More Races Reported	20	1.55	0.73	20
Not English Learner	20	1.50	0.71	20
English Learner	20	1.04	0.57	20
Not Economically Disadvantaged	20	1.50	0.72	20
Economically Disadvantaged	20	1.43	0.69	20
Students without Disabilities	20	1.50	0.71	20
Students with Disabilities	20	1.52	0.72	20

Table 278. ELA05 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.63	0.75	94,407
Female	20	1.61	0.74	46,285
Male	20	1.63	0.75	48,114
American Indian/Alaska Native	20	1.77	0.78	172
Asian	20	1.41	0.71	10,466
Black/African American	20	1.57	0.73	13,809
Hispanic/Latino	20	1.55	0.72	30,285





Group	Max. Raw Score	SEM	Reliability	N
Native Hawaiian/Pacific Islander	20	1.57	0.74	183
White/Caucasian	20	1.46	0.70	36,432
Two or More Races Reported	20	1.52	0.72	3,039
Not English Learner	20	1.56	0.73	86,040
English Learner	20	1.17	0.61	8,365
Not Economically Disadvantaged	20	1.57	0.73	62,825
Economically Disadvantaged	20	1.51	0.71	31,573
Students without Disabilities	20	1.55	0.73	75,025
Students with Disabilities	20	1.60	0.74	19,374

Table 279. ELA06 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.34	0.67	95,564
Female	20	1.31	0.66	46,749
Male	20	1.38	0.68	48,794
American Indian/Alaska Native	19	1.38	0.68	166
Asian	20	1.21	0.62	10,325
Black/African American	20	1.25	0.64	13,497
Hispanic/Latino	20	1.21	0.63	30,716
Native Hawaiian/Pacific Islander	19	1.25	0.64	189
White/Caucasian	20	1.23	0.63	37,813
Two or More Races Reported	20	1.34	0.67	2,841
Not English Learner	20	1.31	0.66	88,704
English Learner	17	0.65	0.39	6,854
Not Economically Disadvantaged	20	1.31	0.66	64,276
Economically Disadvantaged	20	1.18	0.61	31,279
Students without Disabilities	20	1.28	0.65	75,899
Students with Disabilities	20	1.28	0.65	19,659



Table 280. ELA07 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.44	0.69	96,557
Female	20	1.44	0.69	47,164
Male	20	1.43	0.69	49,349
American Indian/Alaska Native	20	1.34	0.66	172
Asian	20	1.37	0.67	10,419
Black/African American	20	1.28	0.64	13,972
Hispanic/Latino	20	1.31	0.65	30,501
Native Hawaiian/Pacific Islander	18	1.14	0.58	179
White/Caucasian	20	1.34	0.66	38,519
Two or More Races Reported	20	1.46	0.70	2,778
Not English Learner	20	1.39	0.68	90,396
English Learner	20	0.70	0.42	6,158
Not Economically Disadvantaged	20	1.43	0.69	65,632
Economically Disadvantaged	20	1.26	0.64	30,920
Students without Disabilities	20	1.40	0.68	76,860
Students with Disabilities	20	1.28	0.65	19,694

Table 281. ELA08 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.73	0.78	99,745
Female	20	1.69	0.77	48,483
Male	20	1.76	0.79	51,208
American Indian/Alaska Native	20	1.59	0.74	145
Asian	20	1.44	0.72	10,548
Black/African American	20	1.66	0.76	14,709
Hispanic/Latino	20	1.71	0.78	31,377
Native Hawaiian/Pacific Islander	20	1.55	0.74	206
White/Caucasian	20	1.56	0.74	40,112
Two or More Races Reported	20	1.69	0.78	2,644



Group	Max. Raw Score	SEM	Reliability	N
Not English Learner	20	1.66	0.77	94,079
English Learner	20	1.11	0.60	5,658
Not Economically Disadvantaged	20	1.67	0.77	68,282
Economically Disadvantaged	20	1.67	0.76	31,454
Students without Disabilities	20	1.64	0.76	79,376
Students with Disabilities	20	1.71	0.78	20,360

Table 282. ELA09 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.44	0.69	98,984
Female	20	1.39	0.67	48,455
Male	20	1.47	0.70	50,405
American Indian/Alaska Native	19	1.50	0.71	166
Asian	20	1.19	0.61	10,593
Black/African American	20	1.39	0.68	14,352
Hispanic/Latino	20	1.43	0.69	31,620
Native Hawaiian/Pacific Islander	20	1.32	0.65	180
White/Caucasian	20	1.31	0.65	39,571
Two or More Races Reported	20	1.34	0.65	2,481
Not English Learner	20	1.38	0.67	93,655
English Learner	18	0.98	0.55	5,328
Not Economically Disadvantaged	20	1.40	0.67	69,383
Economically Disadvantaged	20	1.39	0.68	29,600
Students without Disabilities	20	1.38	0.67	80,134
Students with Disabilities	20	1.40	0.68	18,848



Table 283. ELA10 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	20	1.54	0.71	98,707
Female	20	1.49	0.69	48,307
Male	20	1.56	0.71	50,275
American Indian/Alaska Native	20	1.56	0.71	144
Asian	20	1.28	0.63	10,435
Black/African American	20	1.50	0.69	13,767
Hispanic/Latino	20	1.53	0.70	31,412
Native Hawaiian/Pacific Islander	20	1.41	0.67	210
White/Caucasian	20	1.41	0.67	40,381
Two or More Races Reported	20	1.49	0.69	2,351
Not English Learner	20	1.47	0.68	93,232
English Learner	20	0.93	0.52	5,475
Not Economically Disadvantaged	20	1.50	0.69	69,953
Economically Disadvantaged	20	1.51	0.70	28,753
Students without Disabilities	20	1.48	0.69	79,580
Students with Disabilities	20	1.50	0.70	19,125

Table 284. MAT04 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	24	2.47	0.93	92,492
Female	24	2.42	0.92	45,358
Male	24	2.51	0.93	47,126
American Indian/Alaska Native	24	2.55	0.94	182
Asian	24	2.26	0.92	10,083
Black/African American	24	2.28	0.91	12,974
Hispanic/Latino	24	2.26	0.91	30,366
Native Hawaiian/Pacific Islander	24	2.43	0.92	175
White/Caucasian	24	2.32	0.91	35,578
Two or More Races Reported	24	2.49	0.93	3,117



Group	Max. Raw Score	SEM	Reliability	N
Not English Learner	24	2.45	0.93	81,928
English Learner	24	2.05	0.89	10,562
Not Economically Disadvantaged	24	2.43	0.92	61,311
Economically Disadvantaged	24	2.24	0.91	31,172
Students without Disabilities	24	2.43	0.92	74,306
Students with Disabilities	24	2.37	0.92	18,181

Table 285. MAT05 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	25	2.49	0.92	92,679
Female	25	2.45	0.92	45,083
Male	25	2.51	0.93	47,589
American Indian/Alaska Native	25	2.63	0.94	167
Asian	25	2.26	0.91	10,407
Black/African American	25	2.23	0.90	13,202
Hispanic/Latino	25	2.26	0.90	29,844
Native Hawaiian/Pacific Islander	25	2.47	0.92	177
White/Caucasian	25	2.34	0.91	35,898
Two or More Races Reported	25	2.47	0.92	2,965
Not English Learner	25	2.47	0.92	83,789
English Learner	25	1.96	0.87	8,888
Not Economically Disadvantaged	25	2.46	0.92	61,788
Economically Disadvantaged	25	2.23	0.90	30,882
Students without Disabilities	25	2.46	0.92	73,425
Students with Disabilities	25	2.32	0.91	19,245



Table 286. MAT06 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	25	2.38	0.91	95,545
Female	25	2.31	0.90	46,649
Male	25	2.44	0.92	48,874
American Indian/Alaska Native	25	2.43	0.92	164
Asian	25	2.21	0.91	10,302
Black/African American	25	2.07	0.88	13,361
Hispanic/Latino	25	2.12	0.88	30,918
Native Hawaiian/Pacific Islander	25	2.41	0.92	185
White/Caucasian	25	2.28	0.90	37,780
Two or More Races Reported	25	2.40	0.92	2,818
Not English Learner	25	2.37	0.91	88,080
English Learner	25	1.68	0.82	7,459
Not Economically Disadvantaged	25	2.38	0.91	64,338
Economically Disadvantaged	25	2.07	0.88	31,196
Students without Disabilities	25	2.37	0.91	75,930
Students with Disabilities	25	2.16	0.89	19,609

Table 287. MAT07 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	25	2.46	0.92	92,105
Female	25	2.43	0.92	45,183
Male	25	2.48	0.92	46,879
American Indian/Alaska Native	24	2.43	0.92	162
Asian	25	2.21	0.91	8,259
Black/African American	25	2.34	0.91	13,585
Hispanic/Latino	25	2.32	0.91	30,294
Native Hawaiian/Pacific Islander	25	2.42	0.92	163
White/Caucasian	25	2.31	0.91	37,024
Two or More Races Reported	25	2.42	0.92	2,603



Group	Max. Raw Score	SEM	Reliability	N
Not English Learner	25	2.43	0.92	85,384
English Learner	25	1.94	0.87	6,718
Not Economically Disadvantaged	25	2.41	0.92	61,600
Economically Disadvantaged	25	2.31	0.91	30,500
Students without Disabilities	25	2.38	0.91	72,681
Students with Disabilities	25	2.35	0.92	19,421

Table 288. MAT08 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	23	2.07	0.88	70,830
Female	23	2.03	0.88	34,135
Male	23	2.10	0.89	36,655
American Indian/Alaska Native	21	1.99	0.88	109
Asian	23	2.19	0.90	3,837
Black/African American	23	1.89	0.86	12,193
Hispanic/Latino	23	1.94	0.86	26,006
Native Hawaiian/Pacific Islander	21	1.93	0.85	135
White/Caucasian	23	2.03	0.87	26,781
Two or More Races Reported	23	2.10	0.89	1,764
Not English Learner	23	2.07	0.88	65,275
English Learner	21	1.53	0.81	5,548
Not Economically Disadvantaged	23	2.09	0.88	44,372
Economically Disadvantaged	23	1.94	0.87	26,450
Students without Disabilities	23	2.06	0.88	52,933
Students with Disabilities	23	1.89	0.86	17,889



Table 289. ALG01 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	25	1.77	0.82	102,871
Female	25	1.71	0.80	49,481
Male	25	1.83	0.83	53,284
American Indian/Alaska Native	25	1.90	0.84	174
Asian	25	2.05	0.86	10,405
Black/African American	25	1.42	0.75	15,217
Hispanic/Latino	25	1.53	0.77	34,116
Native Hawaiian/Pacific Islander	25	1.77	0.81	208
White/Caucasian	25	1.67	0.78	40,192
Two or More Races Reported	25	1.84	0.82	2,545
Not English Learner	25	1.78	0.82	95,646
English Learner	23	1.21	0.71	7,224
Not Economically Disadvantaged	25	1.82	0.82	71,511
Economically Disadvantaged	25	1.51	0.77	31,359
Students without Disabilities	25	1.79	0.81	82,294
Students with Disabilities	25	1.49	0.77	20,575

Table 290. GEO01 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	28	2.13	0.87	95,654
Female	28	2.05	0.86	46,529
Male	28	2.21	0.88	49,006
American Indian/Alaska Native	28	2.28	0.90	163
Asian	28	2.35	0.90	9,480
Black/African American	28	1.72	0.81	13,623
Hispanic/Latino	28	1.79	0.82	30,632
Native Hawaiian/Pacific Islander	26	2.01	0.85	183
White/Caucasian	28	2.05	0.85	39,181
Two or More Races Reported	28	2.18	0.88	2,379





Group	Max. Raw Score	SEM	Reliability	N
Not English Learner	28	2.13	0.87	89,786
English Learner	28	1.31	0.75	5,868
Not Economically Disadvantaged	28	2.18	0.88	67,644
Economically Disadvantaged	28	1.76	0.82	28,009
Students without Disabilities	28	2.14	0.87	77,047
Students with Disabilities	28	1.79	0.83	18,606

Table 291. ALG02 Demographic Reliabilities

Group	Max. Raw Score	SEM	Reliability	N
All Students	28	2.16	0.87	85,400
Female	28	2.10	0.86	42,523
Male	28	2.22	0.88	42,771
American Indian/Alaska Native	26	2.13	0.87	124
Asian	28	2.31	0.89	10,125
Black/African American	28	1.67	0.79	10,735
Hispanic/Latino	28	1.78	0.82	25,310
Native Hawaiian/Pacific Islander	27	2.06	0.86	239
White/Caucasian	28	2.03	0.85	36,867
Two or More Races Reported	28	2.20	0.88	1,992
Not English Learner	28	2.16	0.87	81,503
English Learner	28	1.54	0.80	3,897
Not Economically Disadvantaged	28	2.19	0.88	63,162
Economically Disadvantaged	28	1.78	0.82	22,238
Students without Disabilities	28	2.17	0.87	71,239
Students with Disabilities	28	1.86	0.84	14,160