



Arkansas Comprehensive Testing, Assessment, and Accountability Program

Mid-Year End-of-Course Examinations for Algebra I, Geometry, and Biology
Raw To Scale Score Conversion Tables
January 2013 Administration

Introduction

The *Raw to Scale Score Conversion Tables* provide information on raw scores attained by students for the Algebra I, Geometry, and Biology End-of-Course Examinations, and how those scores correspond with student scale scores.

The attached *Raw to Scale Score Conversion Tables* are specific to the January 2013 administration of the Mid-Year End-of-Course Examinations and do NOT apply to any other administration.

What are Scale Scores?

Scale Scores are transformed raw scores. For every possible raw score on a test form, there is a corresponding scale score, although a scale score may represent more than one raw score depending on the distribution of the results. When multiple forms of a test are used, or when results are compared from year to year, scale scores are needed to adjust for possible differences in test form length or difficulty. For example, it would not be possible to interpret a raw score of 50 items correct or points earned without knowing how many items are on the test and how difficult those items are.

Why Use Scale Scores?

Scale scores provide a useful measurement tool for many assessment programs. They are used in numerous national testing programs, including the ACT and SAT examinations, which are typically part of the admissions process for colleges and universities. Scale scores are also routinely used in many other statewide testing programs, providing the basis for long-term, meaningful comparisons of student results across different test administrations.

Educators have always adjusted for differences in test length by changing from “number correct” scores to “percent correct” scores. The next step is to remove differences in item difficulty by moving to “scale scores.” To illustrate the value of this step, consider an examination with just two forms: Form A and Form B. If the items on Form A happen to be slightly more difficult than the items on Form B, one would expect a student to answer a higher percentage of items correctly if Form B were administered rather than Form A. However, a student should receive the same scale score for either form.

Scale scores are intended to make scores more meaningful by defining a scale of measurement that is not tied to a particular form of a test. However, to be meaningful, the scale must be tied to a benchmark that is meaningful to the user. The Mid-Year End-of-Course Examinations were constructed so that a specific score for Algebra I, a specific score for Geometry, and a specific score for Biology correspond to the Advanced, Proficient, Basic, and Below Basic performance levels. In the future, these values may correspond to different raw scores, but they will have the same meaning in terms of student performance.

January 2013 Scale Scores

The attached Raw to Scale Score Conversion Tables list the total number of raw score points available for Algebra I, Geometry, and Biology End-of-Course Examinations as well as the associated scale scores for the three content areas. While the scale scores for the three content areas are listed in conjunction with similar raw score scales, it is important to understand that the scale scores for the three content areas are not connected and should not be considered equivalent in any sense. These scores differ due to the uniqueness of the content areas and the student results relative to Algebra I, Geometry, and Biology. The overall distribution of student performance results for each content area differs from the others. This difference in the distribution of results, relative to the unique content areas, accounts for the differences in the scale scores. Given the differences between the three content areas and the differences in student performance results, it is not appropriate to compare the three sets of scale scores.

The tables below list the performance levels and associated scale scores ranges for the Mid-Year End-of-Course Examinations. **Again, the scale score information listed in these tables is specific to the January 2013 administration of the End-of-Course Examinations and does NOT apply to any other administration.**

2013 Algebra I Mid-Year End-of-Course Examination Scale Score Ranges

Performance Levels	EOC Algebra I Scale Scores
Below Basic	150 & below
Basic	151–199
Proficient	200–249
Advanced	250 & above

2013 Geometry Mid-Year End-of-Course Examination Scale Score Ranges

Performance Levels	EOC Geometry Scale Scores
Below Basic	153 & below
Basic	154–199
Proficient	200–249
Advanced	250 & above

2013 Biology Mid-Year End-of-Course Examination Scale Score Ranges

Performance Levels	EOC Biology Scale Scores
Below Basic	145 & below
Basic	146–199
Proficient	200–249
Advanced	250 & above

The Report Interpretation Guide for the *Algebra I, Geometry, and Biology End-of-Course Examinations* contains more information on the development of the performance levels. For additional information about the results and information on student performance, please contact:

The Office of Student Assessment
Arkansas Department of Education
Four Capitol Mall
Little Rock, AR 72201-1071
Telephone: 501-682-4558



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2013 Algebra I Mid-Year End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	12
2	19
3	23
4	26
5	38
6	49
7	58
8	67
9	74
10	81
11	87
12	93
13	98
14	104
15	108
16	113
17	118
18	122
19	126
20	130
21	134
22	138
23	142
24	145

BASIC	
Raw Score	Scale Score
25	151
26	153
27	156
28	159
29	162
30	165
31	168
32	171
33	174
34	177
35	180
36	183
37	185
38	188
39	191
40	193
41	196

PROFICIENT	
Raw Score	Scale Score
42	200
43	202
44	204
45	207
46	209
47	211
48	213
49	216
50	218
51	220
52	223
53	225
54	227
55	230
56	232
57	234
58	236
59	239
60	241
61	243
62	246
63	248

ADVANCED	
Raw Score	Scale Score
64	250
65	253
66	255
67	257
68	259
69	261
70	263
71	265
72	267
73	270
74	272
75	274
76	276
77	279
78	281
79	284
80	286
81	289
82	292
83	294
84	297
85	300
86	304
87	307
88	310
89	314
90	318
91	323
92	328
93	333
94	339
95	347
96	356
97	368
98	384
99	412
100	459



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2013 Biology Mid-Year End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	5
2	9
3	13
4	18
5	23
6	33
7	42
8	49
9	56
10	62
11	68
12	73
13	78
14	83
15	87
16	91
17	95
18	99
19	103
20	106
21	110
22	113
23	116
24	119
25	122
26	125
27	128
28	131
29	134
30	137
31	139
32	142
33	145

BASIC	
Raw Score	Scale Score
34	147
35	150
36	152
37	155
38	157
39	160
40	162
41	165
42	167
43	169
44	172
45	174
46	177
47	179
48	181
49	184
50	186
51	188
52	191
53	193
54	195
55	198

PROFICIENT	
Raw Score	Scale Score
56	200
57	202
58	205
59	207
60	209
61	212
62	214
63	217
64	219
65	222
66	224
67	227
68	229
69	232
70	234
71	237
72	240
73	243
74	246

ADVANCED	
Raw Score	Scale Score
75	250
76	252
77	255
78	258
79	261
80	265
81	268
82	272
83	276
84	280
85	284
86	289
87	294
88	299
89	304
90	310
91	317
92	324
93	332
94	341
95	352
96	365
97	381
98	403
99	440
100	502



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2013 Geometry Mid-Year End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	11
2	17
3	33
4	47
5	58
6	67
7	76
8	83
9	89
10	95
11	100
12	105
13	110
14	114
15	119
16	123
17	126
18	130
19	133
20	137
21	140
22	143
23	146
24	149
25	152

BASIC	
Raw Score	Scale Score
26	155
27	157
28	160
29	163
30	165
31	167
32	170
33	172
34	175
35	177
36	179
37	181
38	184
39	186
40	188
41	190
42	193
43	195
44	197

PROFICIENT	
Raw Score	Scale Score
45	200
46	202
47	203
48	205
49	207
50	209
51	211
52	213
53	215
54	216
55	218
56	220
57	222
58	224
59	226
60	228
61	229
62	231
63	233
64	235
65	237
66	239
67	241
68	243
69	244
70	246
71	248

ADVANCED	
Raw Score	Scale Score
72	250
73	250
74	252
75	254
76	256
77	258
78	260
79	262
80	265
81	267
82	269
83	272
84	274
85	277
86	280
87	283
88	286
89	289
90	293
91	297
92	301
93	306
94	312
95	319
96	327
97	337
98	351
99	376
100	419



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2013 Biology End-of-Course Examination Braille Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	6
2	11
3	16
4	21
5	23
6	33
7	42
8	50
9	56
10	63
11	68
12	74
13	79
14	83
15	88
16	92
17	96
18	99
19	103
20	107
21	110
22	113
23	117
24	120
25	123
26	126
27	129
28	131
29	134
30	137
31	140
32	142

BASIC	
Raw Score	Scale Score
33	146
34	148
35	150
36	153
37	155
38	158
39	160
40	163
41	165
42	168
43	170
44	173
45	175
46	177
47	180
48	182
49	184
50	187
51	189
52	192
53	194
54	196
55	199

PROFICIENT	
Raw Score	Scale Score
56	200
57	203
58	206
59	208
60	211
61	213
62	215
63	218
64	220
65	223
66	226
67	228
68	231
69	233
70	236
71	239
72	242
73	245
74	248

ADVANCED	
Raw Score	Scale Score
75	250
76	254
77	257
78	260
79	264
80	267
81	271
82	275
83	279
84	283
85	288
86	293
87	298
88	304
89	309
90	316
91	323
92	331
93	340
94	351
95	364
96	380
97	402
98	439
99	502



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2013 Geometry End-of-Course Examination Braille Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	11
2	17
3	35
4	49
5	60
6	69
7	78
8	85
9	91
10	97
11	102
12	107
13	112
14	116
15	121
16	125
17	128
18	132
19	135
20	139
21	142
22	145
23	148
24	151

BASIC	
Raw Score	Scale Score
25	154
26	157
27	159
28	162
29	164
30	167
31	169
32	172
33	174
34	176
35	179
36	181
37	183
38	186
39	188
40	190
41	192
42	194
43	197

PROFICIENT	
Raw Score	Scale Score
44	200
45	201
46	203
47	205
48	207
49	209
50	211
51	213
52	214
53	216
54	218
55	220
56	222
57	224
58	226
59	227
60	229
61	231
62	233
63	235
64	237
65	239
66	241
67	242
68	244
69	246
70	248

ADVANCED	
Raw Score	Scale Score
71	250
72	250
73	252
74	254
75	256
76	258
77	260
78	262
79	265
80	267
81	269
82	272
83	274
84	277
85	280
86	283
87	286
88	289
89	293
90	297
91	301
92	306
93	312
94	319
95	327
96	337
97	351
98	376
99	419