



Arkansas Comprehensive Testing, Assessment, and Accountability Program

Spring End-of-Course Examinations for Algebra I, Geometry, and Biology
Raw To Scale Score Conversion Tables
Spring 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 Spring 2013 administration of the 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 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.



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Spring 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 End-of-Course Examinations. **Again, the scale score information listed in these tables is specific to the Spring 2013 administration of the End-of-Course Examinations and does NOT apply to any other administration.**

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

BELOW BASIC	
Raw Score	Scale Score
0	1
1	13
2	19
3	23
4	27
5	40
6	51
7	61
8	69
9	77
10	84
11	90
12	96
13	102
14	107
15	112
16	117
17	122
18	126
19	130
20	134
21	138
22	142
23	146

BASIC	
Raw Score	Scale Score
24	151
25	153
26	156
27	159
28	163
29	166
30	169
31	172
32	175
33	177
34	180
35	183
36	186
37	188
38	191
39	194
40	196

PROFICIENT	
Raw Score	Scale Score
41	200
42	202
43	204
44	207
45	209
46	211
47	213
48	216
49	218
50	220
51	222
52	224
53	226
54	229
55	231
56	233
57	235
58	237
59	239
60	241
61	243
62	245
63	247

ADVANCED	
Raw Score	Scale Score
64	250
65	252
66	253
67	255
68	257
69	259
70	260
71	262
72	264
73	266
74	268
75	269
76	271
77	273
78	275
79	277
80	279
81	281
82	284
83	286
84	289
85	291
86	294
87	297
88	300
89	303
90	307
91	311
92	316
93	321
94	327
95	334
96	343
97	355
98	370
99	397
100	443



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

BELOW BASIC	
Raw Score	Scale Score
0	1
1	11
2	17
3	32
4	46
5	57
6	67
7	75
8	82
9	89
10	95
11	100
12	105
13	110
14	114
15	119
16	123
17	127
18	130
19	134
20	137
21	141
22	144
23	147
24	150

BASIC	
Raw Score	Scale Score
25	154
26	156
27	159
28	161
29	164
30	166
31	169
32	171
33	174
34	176
35	179
36	181
37	184
38	186
39	188
40	190
41	193
42	195
43	197

PROFICIENT	
Raw Score	Scale Score
44	200
45	202
46	204
47	206
48	208
49	210
50	212
51	214
52	216
53	218
54	220
55	222
56	223
57	225
58	227
59	229
60	231
61	233
62	235
63	237
64	239
65	241
66	242
67	244
68	246
69	248

ADVANCED	
Raw Score	Scale Score
70	250
71	250
72	252
73	253
74	255
75	257
76	259
77	260
78	262
79	264
80	266
81	268
82	270
83	272
84	274
85	276
86	279
87	282
88	284
89	288
90	291
91	295
92	299
93	304
94	310
95	317
96	326
97	337
98	352
99	378
100	422



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

BELOW BASIC	
Raw Score	Scale Score
0	0
1	3
2	5
3	7
4	9
5	22
6	32
7	42
8	50
9	57
10	63
11	70
12	75
13	80
14	86
15	90
16	95
17	99
18	103
19	107
20	111
21	115
22	119
23	122
24	125
25	129
26	132
27	135
28	138
29	141
30	144

BASIC	
Raw Score	Scale Score
31	147
32	150
33	153
34	156
35	158
36	161
37	164
38	166
39	169
40	172
41	174
42	177
43	179
44	182
45	184
46	186
47	189
48	191
49	194
50	196
51	198

PROFICIENT	
Raw Score	Scale Score
52	200
53	203
54	206
55	208
56	210
57	213
58	215
59	218
60	220
61	223
62	225
63	228
64	230
65	233
66	235
67	238
68	240
69	243
70	246
71	248

ADVANCED	
Raw Score	Scale Score
72	250
73	254
74	257
75	260
76	263
77	266
78	269
79	273
80	276
81	280
82	283
83	287
84	291
85	296
86	300
87	305
88	310
89	315
90	321
91	327
92	334
93	342
94	350
95	360
96	372
97	387
98	409
99	444
100	505