



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 2011 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 2011 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.

April 2011 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 April/May 2011 administration of the End-of-Course Examinations and does NOT apply to any other administration.**

2011 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

2011 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

2011 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:

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4 State Capitol Mall, Room 106A
Little Rock, AR 72201-1071
Telephone: 501-682-4558

2011 Algebra I End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	2
1	13
2	20
3	24
4	29
5	42
6	53
7	62
8	70
9	77
10	84
11	90
12	96
13	101
14	106
15	111
16	115
17	120
18	124
19	128
20	132
21	135
22	139
23	142
24	146

BASIC	
Raw Score	Scale Score
25	151
26	153
27	156
28	159
29	162
30	165
31	168
32	170
33	173
34	176
35	178
36	181
37	183
38	186
39	188
40	191
41	193
42	195
43	198

PROFICIENT	
Raw Score	Scale Score
44	200
45	203
46	205
47	207
48	209
49	211
50	213
51	215
52	217
53	219
54	221
55	223
56	225
57	227
58	229
59	232
60	234
61	236
62	238
63	240
64	242
65	245
66	247

ADVANCED	
Raw Score	Scale Score
67	250
68	252
69	254
70	256
71	259
72	261
73	263
74	265
75	268
76	270
77	273
78	276
79	278
80	281
81	284
82	287
83	290
84	293
85	296
86	300
87	304
88	308
89	312
90	316
91	322
92	327
93	333
94	341
95	349
96	359
97	372
98	389
99	418
100	465

2011 Biology End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw	Scale
0	0
1	3
2	6
3	10
4	14
5	26
6	36
7	45
8	53
9	60
10	66
11	72
12	77
13	82
14	87
15	92
16	96
17	100
18	104
19	107
20	111
21	114
22	117
23	120
24	123
25	126
26	129
27	132
28	135
29	137
30	140
31	143
32	145

BASIC	
Raw	Scale
33	146
34	150
35	152
36	154
37	157
38	159
39	161
40	163
41	165
42	168
43	170
44	172
45	174
46	176
47	178
48	180
49	182
50	184
51	186
52	188
53	190
54	192
55	194
56	196
57	198

PROFICIENT	
Raw	Scale
58	200
59	203
60	205
61	207
62	209
63	211
64	213
65	216
66	218
67	220
68	223
69	225
70	228
71	230
72	233
73	236
74	238
75	241
76	244
77	247

ADVANCED	
Raw	Scale
78	250
79	254
80	257
81	260
82	264
83	268
84	272
85	276
86	281
87	285
88	290
89	296
90	302
91	308
92	315
93	323
94	332
95	342
96	355
97	370
98	392
99	428
100	490

2011 Geometry End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	1
1	11
2	17
3	33
4	47
5	58
6	67
7	75
8	82
9	88
10	94
11	99
12	104
13	109
14	113
15	117
16	121
17	125
18	129
19	132
20	135
21	139
22	142
23	145
24	148
25	151

BASIC	
Raw Score	Scale Score
26	154
27	156
28	159
29	162
30	164
31	167
32	169
33	172
34	174
35	176
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	204
48	206
49	208
50	209
51	211
52	213
53	215
54	217
55	219
56	221
57	223
58	225
59	226
60	228
61	230
62	232
63	234
64	236
65	238
66	240
67	242
68	244
69	246
70	248

ADVANCED	
Raw Score	Scale Score
71	250
72	251
73	252
74	254
75	257
76	259
77	261
78	263
79	266
80	268
81	271
82	274
83	276
84	279
85	283
86	286
87	289
88	293
89	297
90	302
91	306
92	312
93	318
94	324
95	332
96	342
97	354
98	370
99	396
100	440