



Arkansas Comprehensive Testing, Assessment, and Accountability Program

**End-of-Course Examinations for Algebra I, Geometry, and Biology  
Raw To Scale Score Conversion Tables  
April 2010 Administration**



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## 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 April 2010 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 2010 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 2010 administration of the End-of-Course Examinations and does NOT apply to any other administration.**

### ***2010 Algebra I End-of-Course Examination Scale Score Ranges***

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

### ***2010 Geometry End-of-Course Examination Scale Score Ranges***

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

### ***2010 Biology End-of-Course Examination Scale Score Ranges***

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

The Report Interpretation Guide for the *Geometry, Algebra I, 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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## 2010 Algebra I End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	4
2	10
3	16
4	22
5	35
6	46
7	56
8	64
9	72
10	79
11	86
12	92
13	98
14	103
15	108
16	113
17	118
18	122
19	127
20	131
21	135
22	139
23	143
24	147

BASIC	
Raw Score	Scale Score
25	151
26	154
27	157
28	159
29	164
30	167
31	170
32	173
33	176
34	179
35	182
36	185
37	187
38	190
39	193
40	195
41	198

PROFICIENT	
Raw Score	Scale Score
42	200
43	203
44	205
45	208
46	210
47	212
48	215
49	217
50	219
51	221
52	223
53	226
54	228
55	230
56	232
57	234
58	236
59	238
60	240
61	242
62	244
63	246
64	248

ADVANCED	
Raw Score	Scale Score
65	250
66	252
67	254
68	257
69	259
70	261
71	263
72	266
73	268
74	270
75	273
76	275
77	278
78	280
79	283
80	286
81	289
82	291
83	295
84	298
85	301
86	305
87	308
88	312
89	317
90	321
91	326
92	332
93	338
94	344
95	353
96	362
97	375
98	392
99	422
100	479

## 2010 Biology End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw	Scale
0	0
1	2
2	5
3	8
4	11
5	14
6	24
7	33
8	41
9	48
10	54
11	60
12	66
13	71
14	75
15	80
16	84
17	89
18	93
19	96
20	100
21	104
22	107
23	110
24	114
25	117
26	120
27	123
28	126
29	129
30	132
31	135
32	137
33	140
34	143

BASIC	
Raw	Scale
35	146
36	148
37	151
38	153
39	156
40	158
41	161
42	163
43	166
44	168
45	171
46	173
47	175
48	178
49	180
50	183
51	185
52	187
53	190
54	192
55	195
56	197

PROFICIENT	
Raw	Scale
57	200
58	202
59	204
60	207
61	209
62	212
63	214
64	217
65	220
66	222
67	225
68	228
69	231
70	233
71	236
72	239
73	242
74	245

ADVANCED	
Raw	Scale
75	250
76	252
77	255
78	258
79	262
80	266
81	269
82	273
83	277
84	281
85	286
86	291
87	295
88	301
89	306
90	312
91	318
92	326
93	333
94	342
95	352
96	365
97	380
98	401
99	437
100	498

## 2010 Geometry End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	6
2	11
3	30
4	44
5	55
6	65
7	73
8	80
9	87
10	93
11	98
12	103
13	108
14	113
15	117
16	121
17	125
18	129
19	132
20	136
21	139
22	142
23	146
24	149
25	152

BASIC	
Raw Score	Scale Score
26	155
27	157
28	160
29	163
30	166
31	168
32	171
33	174
34	176
35	179
36	181
37	184
38	186
39	189
40	191
41	194
42	196

PROFICIENT	
Raw Score	Scale Score
43	200
44	202
45	204
46	207
47	209
48	212
49	214
50	217
51	219
52	222
53	224
54	227
55	229
56	231
57	233
58	235
59	237
60	239
61	241
62	243
63	244
64	246
65	248

ADVANCED	
Raw Score	Scale Score
66	250
67	251
68	252
69	254
70	255
71	257
72	258
73	260
74	262
75	263
76	265
77	267
78	268
79	270
80	272
81	273
82	275
83	277
84	279
85	281
86	284
87	286
88	289
89	292
90	295
91	299
92	303
93	308
94	314
95	321
96	329
97	340
98	355
99	381
100	429