



Arkansas Comprehensive Testing, Assessment, and Accountability Program

**End-of-Course Examinations for Algebra I and Geometry  
Raw To Scale Score Conversion Tables  
April 2007 Administration**

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## **Introduction**

The *Raw to Scale Score Conversion Tables* provide information on raw scores attained by students for Algebra I and Geometry on the 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 2007 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 and a specific score for Geometry 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 2007 Scale Scores

The attached *Raw to Scale Score Conversion Tables* list the total number of raw score points available for Algebra I and Geometry as well as the associated scale scores for the two content areas. While the scale scores for the two content areas are listed in conjunction with similar raw score scales, it is important to understand that the scale scores for the two 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 and Geometry. The overall distribution of student performance results for Algebra I differs from the results for Geometry, and 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 two content areas and the differences in student performance results, it is not appropriate to compare the two sets of scale scores.

The table below lists 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 2007 administration of the End-of-Course Examinations and does NOT apply to any other administration.**

### *2007 Algebra I End-of-Course Examination Scale Score Ranges*

Performance Levels	EOC Algebra I Scale Scores
Below Basic	0–150
Basic	151–199
Proficient	200–249
Advanced	250–499

### *2007 Geometry End-of-Course Examination Scale Score Ranges*

Performance Levels	EOC Geometry Scale Scores
Below Basic	0–152
Basic	153–199
Proficient	200–249
Advanced	250–452

The Report Interpretation Guides for the *Algebra I* and *Geometry End-of-Course Examinations* contain 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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## 2007 Algebra I End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	7
2	14
3	21
4	37
5	50
6	60
7	69
8	77
9	84
10	91
11	97
12	102
13	107
14	112
15	117
16	121
17	125
18	129
19	133
20	136
21	140
22	143
23	146

BASIC	
Raw Score	Scale Score
24	151
25	153
26	156
27	159
28	161
29	164
30	167
31	170
32	173
33	175
34	178
35	181
36	184
37	186
38	189
39	191
40	194
41	197

PROFICIENT	
Raw Score	Scale Score
42	200
43	202
44	204
45	207
46	209
47	212
48	214
49	217
50	219
51	222
52	224
53	227
54	229
55	232
56	234
57	237
58	239
59	242
60	244
61	247

ADVANCED	
Raw Score	Scale Score
62	250
63	251
64	254
65	256
66	259
67	261
68	264
69	266
70	269
71	271
72	274
73	277
74	279
75	282
76	285
77	287
78	290
79	293
80	296
81	299
82	302
83	305
84	309
85	312
86	316
87	320
88	324
89	329
90	334
91	340
92	347
93	354
94	363
95	373
96	385
97	400
98	419
99	448
100	499

## 2007 Geometry End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	10
2	18
3	37
4	51
5	62
6	71
7	79
8	86
9	92
10	97
11	103
12	107
13	112
14	116
15	120
16	124
17	128
18	131
19	135
20	138
21	141
22	144
23	147
24	150

BASIC	
Raw Score	Scale Score
25	153
26	155
27	158
28	161
29	163
30	166
31	168
32	170
33	173
34	175
35	177
36	179
37	181
38	183
39	185
40	187
41	190
42	192
43	194
44	196
45	197

PROFICIENT	
Raw Score	Scale Score
46	200
47	201
48	203
49	205
50	207
51	209
52	211
53	213
54	215
55	218
56	220
57	222
58	224
59	226
60	228
61	230
62	232
63	235
64	237
65	239
66	241
67	244
68	246
69	248

ADVANCED	
Raw Score	Scale Score
70	250
71	253
72	255
73	257
74	260
75	262
76	264
77	267
78	269
79	272
80	274
81	277
82	280
83	283
84	287
85	290
86	294
87	298
88	302
89	307
90	311
91	317
92	322
93	329
94	336
95	344
96	353
97	364
98	380
99	405
100	452