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Arkansas Comprehensive Testing, Assessment, and Accountability Program

End-of-Course Examinations for Algebra I, Geometry, and Biology
Raw To Scale Score Conversion Tables
April 2009 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 April 2009 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 2009 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 2009 administration of the End-of-Course Examinations and <u>does NOT apply</u> to any other administration.**

2009 *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

2009 *Geometry End-of-Course Examination* Scale Score Ranges

Performance Levels	EOC Geometry Scale Scores
Below Basic	152 & below
Basic	153–199
Proficient	200–249
Advanced	250 & above

2009 *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:

Dr. Gayle Potter, Associate Director
Curriculum, Assessment, and Research
Arkansas Department of Education
4 State Capitol Mall, Room 106A
Little Rock, AR 72201-1071
Telephone: 501-682-4558

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2009 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	26
4	42
5	55
6	66
7	75
8	83
9	91
10	98
11	104
12	110
13	115
14	120
15	125
16	130
17	135
18	139
19	143
20	147

BASIC	
Raw Score	**Scale Score**
21	151
22	154
23	158
24	162
25	165
26	168
27	171
28	174
29	177
30	180
31	183
32	186
33	189
34	191
35	194
36	197

PROFICIENT	
Raw Score	**Scale Score**
37	200
38	202
39	204
40	207
41	209
42	212
43	214
44	216
45	219
46	221
47	223
48	226
49	228
50	230
51	232
52	235
53	237
54	239
55	241
56	243
57	245
58	247

ADVANCED	
Raw Score	**Scale Score**
59	250
60	251
61	253
62	255
63	256
64	258
65	260
66	262
67	264
68	266
69	268
70	269
71	271
72	273
73	275
74	277
75	279
76	281
77	283
78	286
79	288
80	290
81	293
82	295
83	298
84	301
85	304
86	307
87	311
88	315
89	319
90	323
91	328
92	334
93	340
94	347
95	356
96	366
97	379
98	397
99	428
100	486

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2009 Geometry End-of-Course Examination
Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	**Scale Score**
0	0
1	10
2	31
3	50
4	64
5	74
6	83
7	91
8	98
9	104
10	110
11	115
12	120
13	124
14	128
15	132
16	136
17	140
18	143
19	147
20	150

BASIC	
Raw Score	**Scale Score**
21	153
22	156
23	159
24	162
25	165
26	167
27	170
28	172
29	175
30	177
31	180
32	182
33	184
34	186
35	188
36	190
37	192
38	194
39	196
40	197

PROFICIENT	
Raw Score	**Scale Score**
41	200
42	201
43	203
44	204
45	206
46	207
47	209
48	210
49	212
50	213
51	215
52	216
53	218
54	219
55	221
56	222
57	224
58	225
59	227
60	228
61	230
62	231
63	232
64	234
65	235
66	237
67	238
68	240
69	241
70	243
71	245
72	246
73	248

ADVANCED	
Raw Score	**Scale Score**
74	250
75	252
76	253
77	255
78	257
79	259
80	262
81	264
82	266
83	269
84	272
85	275
86	278
87	281
88	284
89	288
90	292
91	297
92	302
93	307
94	313
95	321
96	330
97	342
98	359
99	388
100	439

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2009 Biology End-of-Course Examination
Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	**Scale Score**
0	0
1	5
2	11
3	16
4	21
5	33
6	43
7	52
8	60
9	67
10	73
11	79
12	84
13	89
14	94
15	99
16	103
17	107
18	112
19	115
20	119
21	123
22	126
23	130
24	133
25	137
26	140
27	143

BASIC	
Raw Score	**Scale Score**
28	146
29	150
30	153
31	156
32	159
33	162
34	165
35	168
36	170
37	173
38	176
39	179
40	182
41	185
42	187
43	190
44	193
45	195
46	198

PROFICIENT	
Raw Score	**Scale Score**
47	200
48	203
49	206
50	209
51	211
52	214
53	216
54	219
55	221
56	224
57	226
58	229
59	231
60	234
61	236
62	238
63	241
64	243
65	246
66	248

ADVANCED	
Raw Score	**Scale Score**
67	250
68	253
69	256
70	258
71	261
72	263
73	266
74	268
75	271
76	273
77	276
78	279
79	281
80	284
81	287
82	290
83	294
84	297
85	301
86	304
87	309
88	313
89	318
90	323
91	329
92	336
93	344
94	353
95	363
96	376
97	391
98	413
99	449
100	511