

4. THE 2008 MSA-MATH STATISTICAL SUMMARY

Table 4.1 The 2008 MSA-Math Classical Descriptive Statistics: Grades 3 through 8

Grade	Form	No. of Items	<i>N</i>	<i>M</i>	<i>SD</i>	Reliability	<i>SEM</i>
3	A	65	29,364	50.02	12.47	0.93	3.30
	F	65	29,253	52.00	11.88	0.93	3.14
4	A	64	30,101	48.54	12.91	0.94	3.16
	F	64	29,933	50.40	13.06	0.94	3.20
5	A	65	30,537	46.84	14.23	0.94	3.49
	F	65	30,289	47.04	14.31	0.94	3.51
6	A	62	31,060	44.03	15.18	0.95	3.39
	F	62	30,292	44.91	14.65	0.95	3.28
7	A	62	31,804	38.19	16.18	0.95	3.62
	F	62	31,048	41.28	16.17	0.96	3.23
8	A	62	32,318	35.64	16.68	0.95	3.73
	F	62	31,743	38.02	16.74	0.96	3.35

Note. Analysis was conducted with a statewide population.

Table 4.2 The 2008 MSA-Math Scale Score Descriptive Statistics: Grades 3 through 8

Grade	Form	N	M	SD	P10	Q1	Mdn	Q3	P90	IQR	SE at Cut-Points	
											Prof.	Adv.
3	A	29,364	414.4	39.9	363	387	414	443	462	56	9	12
	F	29,253	418.4	41.4	366	390	420	445	470	55	9	13
	Overall	58,617	416.4	40.7	363	389	417	443	469	54	N/A	N/A
4	A	30,101	424.6	42.9	370	395	425	454	481	59	9	11
	F	29,933	425.1	43.4	370	395	424	454	478	59	9	11
	Overall	60,034	424.9	43.2	370	395	424	454	481	59	N/A	N/A
5	A	30,537	425.3	38.6	377	399	424	450	477	51	8	10
	F	30,289	427.3	39.5	378	398	425	455	479	57	8	10
	Overall	60,826	426.3	39.0	377	399	425	453	477	54	N/A	N/A
6	A	31,060	425.2	40.0	374	395	422	453	477	58	8	9
	F	30,292	427.4	39.8	377	399	427	454	479	55	8	9
	Overall	61,352	426.3	39.9	376	397	425	454	479	57	N/A	N/A
7	A	31,804	416.3	40.8	365	386	414	446	470	60	8	9
	F	31,048	417.8	41.5	364	388	417	447	473	59	8	10
	Overall	62,852	417.1	41.2	364	386	416	446	473	60	N/A	N/A
8	A	32,318	421.1	38.0	373	393	418	447	474	54	8	8
	F	31,743	423.2	39.7	374	394	420	451	478	57	8	8
	Overall	64,061	422.1	38.9	374	393	420	449	474	56	N/A	N/A

Note. Analysis was conducted with a statewide population.

Table 4.3 The 2008 MSA-Math Standard Correlations: Grade 3

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	29,364	9.73	2.65	1.00				
2. Geometry and Measurement	29,364	10.90	2.73	0.69	1.00			
3. Statistics and Probability	29,364	10.35	2.89	0.74	0.69	1.00		
4. Numbers and Computation	29,364	11.72	3.27	0.76	0.71	0.75	1.00	
5. Process	29,364	7.31	2.81	0.64	0.64	0.64	0.67	1.00
Form F								
1. Algebra	29,253	10.42	2.45	1.00				
2. Geometry and Measurement	29,253	11.34	2.68	0.68	1.00			
3. Statistics and Probability	29,253	10.48	2.82	0.73	0.68	1.00		
4. Numbers and Computation	29,253	12.42	3.14	0.76	0.71	0.75	1.00	
5. Process	29,253	7.35	2.53	0.64	0.67	0.67	0.69	1.00

Note. Analysis was conducted with a statewide population.

Table 4.4 The 2008 MSA-Math Standard Correlations: Grade 4

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	30,101	10.96	2.69	1.00				
2. Geometry and Measurement	30,101	9.66	2.80	0.68	1.00			
3. Statistics and Probability	30,101	10.89	3.47	0.74	0.72	1.00		
4. Numbers and Computation	30,101	9.93	2.88	0.72	0.71	0.75	1.00	
5. Process	30,101	7.10	2.84	0.69	0.70	0.73	0.71	1.00
Form F								
1. Algebra	29,933	10.93	2.81	1.00				
2. Geometry and Measurement	29,933	9.44	2.90	0.69	1.00			
3. Statistics and Probability	29,933	11.11	3.33	0.75	0.71	1.00		
4. Numbers and Computation	29,933	11.01	2.71	0.73	0.69	0.73	1.00	
5. Process	29,933	7.91	3.08	0.72	0.70	0.77	0.69	1.00

Note. Analysis was conducted with a statewide population.

Table 4.5 The 2008 MSA-Math Standard Correlations: Grade 5

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	30,537	10.87	2.97	1.00				
2. Geometry and Measurement	30,537	7.98	3.27	0.71	1.00			
3. Statistics and Probability	30,537	9.63	2.83	0.72	0.71	1.00		
4. Numbers and Computation	30,537	10.24	3.33	0.73	0.74	0.74	1.00	
5. Process	30,537	8.12	3.66	0.73	0.74	0.73	0.76	1.00
Form F								
1. Algebra	30,289	11.15	2.93	1.00				
2. Geometry and Measurement	30,289	7.73	3.31	0.70	1.00			
3. Statistics and Probability	30,289	9.81	2.81	0.73	0.70	1.00		
4. Numbers and Computation	30,289	10.07	3.50	0.73	0.74	0.74	1.00	
5. Process	30,289	8.28	3.59	0.73	0.75	0.72	0.77	1.00

Note. Analysis was conducted with a statewide population.

Table 4.6 The 2008 MSA-Math Standard Correlations: Grade 6

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	31,060	9.56	3.15	1.00				
2. Geometry and Measurement	31,060	8.39	3.48	0.77	1.00			
3. Statistics and Probability	31,060	8.87	3.01	0.76	0.74	1.00		
4. Numbers and Computation	31,060	8.63	3.52	0.78	0.77	0.76	1.00	
5. Process	31,060	8.58	3.61	0.79	0.79	0.78	0.80	1.00
Form F								
1. Algebra	30,292	9.90	3.13	1.00				
2. Geometry and Measurement	30,292	8.74	3.20	0.75	1.00			
3. Statistics and Probability	30,292	9.33	2.90	0.75	0.71	1.00		
4. Numbers and Computation	30,292	8.76	3.48	0.78	0.75	0.74	1.00	
5. Process	30,292	8.18	3.55	0.80	0.79	0.76	0.79	1.00

Note. Analysis was conducted with a statewide population.

Table 4.7 The 2008 MSA-Math Standard Correlations: Grade 7

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	31,804	7.59	3.45	1.00				
2. Geometry and Measurement	31,804	6.29	3.45	0.78	1.00			
3. Statistics and Probability	31,804	8.79	3.79	0.78	0.77	1.00		
4. Numbers and Computation	31,804	8.02	3.47	0.80	0.77	0.78	1.00	
5. Process	31,804	7.50	3.63	0.79	0.80	0.82	0.77	1.00
Form F								
1. Algebra	31,048	8.18	3.36	1.00				
2. Geometry and Measurement	31,048	6.61	3.69	0.78	1.00			
3. Statistics and Probability	31,048	9.18	3.73	0.77	0.77	1.00		
4. Numbers and Computation	31,048	8.02	3.54	0.80	0.80	0.78	1.00	
5. Process	31,048	9.29	3.49	0.76	0.75	0.84	0.74	1.00

Note. Analysis was conducted with a statewide population.

Table 4.8 The 2008 MSA-Math Standard Correlations: Grade 8

Form	N	Mean	SD	1	2	3	4	5
Form A								
1. Algebra	32,318	6.92	3.92	1.00				
2. Geometry and Measurement	32,318	6.13	3.28	0.76	1.00			
3. Statistics and Probability	32,318	7.05	3.46	0.76	0.74	1.00		
4. Numbers and Computation	32,318	5.85	2.94	0.78	0.75	0.75	1.00	
5. Process	32,318	9.69	4.81	0.83	0.77	0.81	0.76	1.00
Form F								
1. Algebra	31,743	7.34	3.87	1.00				
2. Geometry and Measurement	31,743	6.39	3.30	0.76	1.00			
3. Statistics and Probability	31,743	7.84	3.58	0.77	0.75	1.00		
4. Numbers and Computation	31,743	6.32	3.07	0.79	0.75	0.76	1.00	
5. Process	31,743	10.14	4.61	0.83	0.78	0.82	0.76	1.00

Note. Analysis was conducted with a statewide population.

Table 4.9 The 2008 MSA-Math Decision Accuracy and Consistency Indices: Grade 3

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.94	0.03	0.03	0.92
	<i>BP : A</i>	0.93	0.04	0.03	0.90
F	<i>B : PA</i>	0.94	0.03	0.03	0.92
	<i>BP : A</i>	0.93	0.04	0.03	0.90

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.10 The 2008 MSA- Mathematics Decision Accuracy and Consistency Indices: Grade 4

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.95	0.02	0.03	0.93
	<i>BP : A</i>	0.93	0.04	0.04	0.90
F	<i>B : PA</i>	0.95	0.02	0.03	0.93
	<i>BP : A</i>	0.93	0.04	0.04	0.90

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.11 The 2008 MSA- Mathematics Decision Accuracy and Consistency Indices: Grade 5

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.94	0.02	0.03	0.92
	<i>BP : A</i>	0.94	0.03	0.03	0.92
F	<i>B : PA</i>	0.94	0.03	0.03	0.92
	<i>BP : A</i>	0.94	0.03	0.03	0.92

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.12 The 2008 MSA- Mathematics Decision Accuracy and Consistency Indices: Grade 6

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.94	0.03	0.03	0.92
	<i>BP : A</i>	0.94	0.03	0.03	0.92
F	<i>B : PA</i>	0.94	0.03	0.04	0.91
	<i>BP : A</i>	0.94	0.03	0.03	0.92

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.13 The 2008 MSA- Mathematics Decision Accuracy and Consistency Indices: Grade 7

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.94	0.03	0.03	0.91
	<i>BP : A</i>	0.95	0.03	0.02	0.93
F	<i>B : PA</i>	0.94	0.03	0.03	0.92
	<i>BP : A</i>	0.95	0.03	0.02	0.94

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.14 The 2008 MSA- Mathematics Decision Accuracy and Consistency Indices: Grade 8

Form	Performance Cut	Accuracy	False Positive	False Negative	Consistency
A	<i>B : PA</i>	0.93	0.03	0.04	0.91
	<i>BP : A</i>	0.95	0.03	0.02	0.92
F	<i>B : PA</i>	0.93	0.03	0.03	0.91
	<i>BP : A</i>	0.95	0.03	0.02	0.93

Note. B: PA denotes the cut between Basic and Proficient, while BP:A denotes the cut between Proficient and Advanced.

Table 4.15 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 3 Form A

Form A				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
0	240 ^a	47	240 ^a	240 ^a
1	240 ^a	33	240 ^a	248
2	240 ^a	24	240 ^a	263
3	254	20	240 ^a	274
4	264	17	247	281
5	272	16	256	288
6	279	15	264	294
7	285	14	271	299
8	291	13	278	304
9	296	12	284	308
10	300	12	288	312
11	304	11	293	315
12	308	11	297	319
13	312	11	301	323
14	315	10	305	325
15	318	10	308	328
16	321	10	311	331
17	325	10	315	335
18	327	10	317	337
19	330	10	320	340
20	333	9	324	342
21	336	9	327	345
22	338	9	329	347
23	341	9	332	350
24	344	9	335	353
25	346	9	337	355
26	349	9	340	358
27	351	9	342	360
28	353	9	344	362
29	356	9	347	365
30	358	9	349	367
31	361	9	352	370
32	363	9	354	372
33	365	9	356	374
34	368	9	359	377
35	370	9	361	379
36	372	9	363	381
37	375	9	366	384
38	377	9	368	386
39	380	9	371	389
40	382	9	373	391
41	384	9	375	393
42	387	9	378	396
43	389	9	380	398
44	392	9	383	401
45	395	9	386	404

Table 4.15 (continued)

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	397	9	388	406
47	400	9	391	409
48	403	9	394	412
49	405	10	395	415
50	408	10	398	418
51	411	10	401	421
52	414	10	404	424
53	417	10	407	427
54	420	10	410	430
55	424	10	414	434
56	427	11	416	438
57	431	11	420	442
58	434	11	423	445
59	438	12	426	450
60	443	12	431	455
61	447	12	435	459
62	452	13	439	465
63	457	13	444	470
64	462	14	448	476
65	469	15	454	484
66	476	16	460	492
67	483	17	466	500
68	493	18	475	511
69	504	21	483	525
70	520	25	495	545
71	545	34	511	579
72	568	47	521	615

Note. ^aLOSS was set to 240.

Table 4.16 The 2008 Total MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 3 Form F

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	240 ^a	47	240 ^a	240 ^a
1	240 ^a	34	240 ^a	242
2	240 ^a	24	240 ^a	256
3	247	20	240 ^a	267
4	257	18	240 ^a	275
5	266	16	250	282
6	273	15	258	288
7	280	14	266	294
8	285	13	272	298
9	290	13	277	303
10	295	12	283	307
11	299	12	287	311
12	303	11	292	314
13	307	11	296	318
14	310	11	299	321
15	314	10	304	324
16	317	10	307	327
17	320	10	310	330
18	323	10	313	333
19	326	10	316	336
20	328	10	318	338
21	331	9	322	340
22	334	9	325	343
23	337	9	328	346
24	339	9	330	348
25	342	9	333	351
26	344	9	335	353
27	347	9	338	356
28	349	9	340	358
29	351	9	342	360
30	354	9	345	363
31	356	9	347	365
32	359	9	350	368
33	361	9	352	370
34	363	9	354	372
35	366	9	357	375
36	368	9	359	377
37	370	9	361	379
38	373	9	364	382
39	375	9	366	384
40	378	9	369	387
41	380	9	371	389
42	383	9	374	392
43	385	9	376	394
44	388	9	379	397
45	390	9	381	399

Table 4.16 (continued)

Raw Score	Form F			
	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
46	393	9	384	402
47	396	9	387	405
48	398	10	388	408
49	401	10	391	411
50	404	10	394	414
51	407	10	397	417
52	410	10	400	420
53	413	10	403	423
54	417	11	406	428
55	420	11	409	431
56	424	11	413	435
57	428	11	417	439
58	432	12	420	444
59	436	12	424	448
60	440	12	428	452
61	445	13	432	458
62	451	13	438	464
63	456	14	442	470
64	463	15	448	478
65	470	16	454	486
66	478	17	461	495
67	488	18	470	506
68	499	20	479	519
69	513	23	490	536
70	531	27	504	558
71	559	35	524	594
72	585	48	537	633

Note. ^aLOSS was set to 240.

Table 4.17 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	247	48	240 ^a	295
AL	1	272	35	240 ^a	307
AL	2	300	26	274	326
AL	3	318	23	295	341
AL	4	333	21	312	354
AL	5	346	20	326	366
AL	6	358	20	338	378
AL	7	370	20	350	390
AL	8	383	21	362	404
AL	9	396	22	374	418
AL	10	412	24	388	436
AL	11	431	27	404	458
AL	12	461	36	425	497
AL	13	487	49	438	536
GM	0	240 ^a	49	240 ^a	283
GM	1	260	36	240 ^a	296
GM	2	289	27	262	316
GM	3	308	23	285	331
GM	4	323	21	302	344
GM	5	336	20	316	356
GM	6	348	19	329	367
GM	7	359	19	340	378
GM	8	370	19	351	389
GM	9	382	19	363	401
GM	10	393	20	373	413
GM	11	406	21	385	427
GM	12	421	23	398	444
GM	13	439	26	413	465
GM	14	467	35	432	502
GM	15	492	48	444	540
SP	0	249	48	240 ^a	297
SP	1	274	35	240 ^a	309
SP	2	300	26	274	326
SP	3	318	22	296	340
SP	4	332	21	311	353
SP	5	344	20	324	364
SP	6	356	19	337	375
SP	7	367	19	348	386
SP	8	378	19	359	397
SP	9	390	20	370	410
SP	10	402	21	381	423
SP	11	416	23	393	439
SP	12	434	26	408	460
SP	13	461	35	426	496
SP	14	486	48	438	534
NC	0	244	47	240 ^a	291
NC	1	269	34	240 ^a	303
NC	2	295	26	269	321

Table 4.17 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
NC	3	312	22	290	334
NC	4	325	20	305	345
NC	5	337	19	318	356
NC	6	347	18	329	365
NC	7	358	18	340	376
NC	8	367	18	349	385
NC	9	378	18	360	396
NC	10	388	19	369	407
NC	11	399	19	380	418
NC	12	411	21	390	432
NC	13	426	23	403	449
NC	14	444	26	418	470
NC	15	471	35	436	506
NC	16	496	48	448	544
PR	0	267	48	240 ^a	315
PR	1	293	36	257	329
PR	2	323	28	295	351
PR	3	344	25	319	369
PR	4	362	24	338	386
PR	5	378	23	355	401
PR	6	394	23	371	417
PR	7	410	23	387	433
PR	8	425	23	402	448
PR	9	441	23	418	464
PR	10	457	23	434	480
PR	11	475	25	450	500
PR	12	496	28	468	524
PR	13	525	36	489	561
PR	14	551	48	503	599

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.18 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	240 ^a	50	240 ^a	274
AL	1	252	37	240 ^a	289
AL	2	283	28	255	311
AL	3	304	24	280	328
AL	4	320	22	298	342
AL	5	334	21	313	355
AL	6	347	20	327	367
AL	7	360	20	340	380
AL	8	373	21	352	394
AL	9	386	22	364	408
AL	10	401	23	378	424
AL	11	420	27	393	447
AL	12	449	35	414	484
AL	13	474	48	426	522
GM	0	240 ^a	49	240 ^a	282
GM	1	259	36	240 ^a	295
GM	2	288	27	261	315
GM	3	307	23	284	330
GM	4	322	21	301	343
GM	5	335	20	315	355
GM	6	347	19	328	366
GM	7	358	19	339	377
GM	8	369	19	350	388
GM	9	380	19	361	399
GM	10	392	20	372	412
GM	11	404	21	383	425
GM	12	418	23	395	441
GM	13	436	26	410	462
GM	14	463	35	428	498
GM	15	488	48	440	536
SP	0	248	48	240 ^a	296
SP	1	272	35	240 ^a	307
SP	2	300	26	274	326
SP	3	317	23	294	340
SP	4	332	21	311	353
SP	5	345	20	325	365
SP	6	356	19	337	375
SP	7	368	19	349	387
SP	8	379	19	360	398
SP	9	391	20	371	411
SP	10	403	21	382	424
SP	11	417	23	394	440
SP	12	435	26	409	461
SP	13	462	35	427	497
SP	14	487	48	439	535
NC	0	240	47	240 ^a	287
NC	1	265	34	240 ^a	299
NC	2	290	25	265	315

Table 4.18 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
NC	3	307	22	285	329
NC	4	320	20	300	340
NC	5	331	19	312	350
NC	6	341	18	323	359
NC	7	351	18	333	369
NC	8	360	18	342	378
NC	9	370	18	352	388
NC	10	380	19	361	399
NC	11	391	19	372	410
NC	12	403	21	382	424
NC	13	418	23	395	441
NC	14	436	27	409	463
NC	15	464	35	429	499
NC	16	489	48	441	537
PR	0	265	48	240 ^a	313
PR	1	291	36	255	327
PR	2	320	28	292	348
PR	3	341	25	316	366
PR	4	358	24	334	382
PR	5	375	23	352	398
PR	6	392	24	368	416
PR	7	410	25	385	435
PR	8	429	25	404	454
PR	9	449	26	423	475
PR	10	469	26	443	495
PR	11	491	27	464	518
PR	12	515	30	485	545
PR	13	549	37	512	586
PR	14	576	49	527	625

Note. ^aLOSS was set to 240.

AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.19 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 4 Form A

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS – 1SE	SS + 1SE
0	240 ^a	47	240 ^a	242
1	240 ^a	34	240 ^a	253
2	244	25	240 ^a	269
3	259	20	240 ^a	279
4	270	18	252	288
5	279	16	263	295
6	286	15	271	301
7	293	14	279	307
8	298	13	285	311
9	304	13	291	317
10	308	12	296	320
11	313	12	301	325
12	317	11	306	328
13	321	11	310	332
14	324	11	313	335
15	328	11	317	339
16	331	10	321	341
17	335	10	325	345
18	338	10	328	348
19	341	10	331	351
20	344	10	334	354
21	346	10	336	356
22	349	10	339	359
23	352	9	343	361
24	355	9	346	364
25	357	9	348	366
26	360	9	351	369
27	363	9	354	372
28	365	9	356	374
29	368	9	359	377
30	370	9	361	379
31	373	9	364	382
32	375	9	366	384
33	378	9	369	387
34	380	9	371	389
35	383	9	374	392
36	385	9	376	394
37	387	9	378	396
38	390	9	381	399
39	392	9	383	401
40	395	9	386	404
41	398	9	389	407
42	400	9	391	409
43	403	9	394	412
44	405	9	396	414
45	408	9	399	417

Table 4.19 (continued)

Form A				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
46	411	10	401	421
47	414	10	404	424
48	416	10	406	426
49	419	10	409	429
50	422	10	412	432
51	425	10	415	435
52	428	10	418	438
53	432	10	422	442
54	435	11	424	446
55	439	11	428	450
56	442	11	431	453
57	446	11	435	457
58	450	12	438	462
59	454	12	442	466
60	459	12	447	471
61	464	13	451	477
62	469	13	456	482
63	475	14	461	489
64	481	15	466	496
65	489	16	473	505
66	497	17	480	514
67	507	19	488	526
68	519	21	498	540
69	535	25	510	560
70	560	34	526	594
71	584	48	536	632

Note. ^aLOSS was set to 240.

Table 4.20 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 4 Form F

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS – 1SE	SS + 1SE
0	240 ^a	48	240 ^a	241
1	240 ^a	34	240 ^a	251
2	243	25	240 ^a	268
3	258	21	240 ^a	279
4	269	18	251	287
5	278	16	262	294
6	286	15	271	301
7	293	14	279	307
8	298	13	285	311
9	303	13	290	316
10	308	12	296	320
11	313	12	301	325
12	317	11	306	328
13	320	11	309	331
14	324	11	313	335
15	328	10	318	338
16	331	10	321	341
17	334	10	324	344
18	337	10	327	347
19	340	10	330	350
20	343	10	333	353
21	345	9	336	354
22	348	9	339	357
23	351	9	342	360
24	353	9	344	362
25	356	9	347	365
26	358	9	349	367
27	361	9	352	370
28	363	9	354	372
29	365	9	356	374
30	368	9	359	377
31	370	9	361	379
32	372	9	363	381
33	375	9	366	384
34	377	9	368	386
35	379	9	370	388
36	382	9	373	391
37	384	9	375	393
38	386	9	377	395
39	388	9	379	397
40	391	9	382	400
41	393	9	384	402
42	395	9	386	404
43	398	9	389	407
44	400	9	391	409
45	403	9	394	412

Table 4.20 (continued)

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	405	9	396	414
47	407	9	398	416
48	410	9	401	419
49	413	9	404	422
50	415	9	406	424
51	418	10	408	428
52	421	10	411	431
53	424	10	414	434
54	427	10	417	437
55	430	10	420	440
56	433	11	422	444
57	437	11	426	448
58	441	11	430	452
59	445	12	433	457
60	449	12	437	461
61	454	13	441	467
62	459	13	446	472
63	464	14	450	478
64	471	15	456	486
65	478	16	462	494
66	487	17	470	504
67	497	19	478	516
68	510	22	488	532
69	527	26	501	553
70	555	35	520	590
71	581	48	533	629

Note. ^aLOSS was set to 240.

Table 4.21 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	240 ^a	49	240 ^a	288
AL	1	265	36	240 ^a	301
AL	2	293	27	266	320
AL	3	312	23	289	335
AL	4	327	21	306	348
AL	5	339	20	319	359
AL	6	351	19	332	370
AL	7	363	19	344	382
AL	8	374	19	355	393
AL	9	386	20	366	406
AL	10	399	21	378	420
AL	11	414	23	391	437
AL	12	432	27	405	459
AL	13	460	36	424	496
AL	14	486	48	438	534
GM	0	240 ^a	51	240 ^a	290
GM	1	269	39	240 ^a	308
GM	2	304	30	274	334
GM	3	327	26	301	353
GM	4	345	23	322	368
GM	5	360	21	339	381
GM	6	373	21	352	394
GM	7	385	20	365	405
GM	8	398	20	378	418
GM	9	410	20	390	430
GM	10	423	21	402	444
GM	11	438	23	415	461
GM	12	456	26	430	482
GM	13	484	35	449	519
GM	14	509	48	461	557
SP	0	259	48	240 ^a	307
SP	1	283	35	248	318
SP	2	310	26	284	336
SP	3	327	22	305	349
SP	4	341	20	321	361
SP	5	352	19	333	371
SP	6	363	19	344	382
SP	7	374	19	355	393
SP	8	385	19	366	404
SP	9	395	19	376	414
SP	10	407	20	387	427
SP	11	419	21	398	440
SP	12	433	23	410	456
SP	13	451	26	425	477
SP	14	479	35	444	514
SP	15	503	48	455	551
NC	0	258	48	240 ^a	306
NC	1	283	35	248	318

Table 4.21 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
NC	2	311	27	284	338
NC	3	329	23	306	352
NC	4	344	21	323	365
NC	5	357	20	337	377
NC	6	369	20	349	389
NC	7	381	20	361	401
NC	8	393	20	373	413
NC	9	405	20	385	425
NC	10	418	21	397	439
NC	11	433	23	410	456
NC	12	452	27	425	479
NC	13	480	35	445	515
NC	14	505	48	457	553
PR	0	274	49	240 ^a	323
PR	1	300	37	263	337
PR	2	331	29	302	360
PR	3	354	26	328	380
PR	4	372	24	348	396
PR	5	390	23	367	413
PR	6	406	23	383	429
PR	7	422	23	399	445
PR	8	438	23	415	461
PR	9	454	24	430	478
PR	10	472	24	448	496
PR	11	490	26	464	516
PR	12	512	28	484	540
PR	13	543	36	507	579
PR	14	569	49	520	618

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.22 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	250	48	240 ^a	298
AL	1	275	35	240	310
AL	2	302	26	276	328
AL	3	320	23	297	343
AL	4	334	21	313	355
AL	5	346	19	327	365
AL	6	357	19	338	376
AL	7	368	19	349	387
AL	8	378	19	359	397
AL	9	389	19	370	408
AL	10	401	20	381	421
AL	11	415	22	393	437
AL	12	432	26	406	458
AL	13	459	35	424	494
AL	14	483	48	435	531
GM	0	240 ^a	54	240 ^a	290
GM	1	271	43	240 ^a	314
GM	2	311	31	280	342
GM	3	334	25	309	359
GM	4	352	22	330	374
GM	5	366	21	345	387
GM	6	378	20	358	398
GM	7	390	20	370	410
GM	8	402	20	382	422
GM	9	413	20	393	433
GM	10	426	21	405	447
GM	11	440	23	417	463
GM	12	458	26	432	484
GM	13	485	35	450	520
GM	14	510	48	462	558
SP	0	252	48	240 ^a	300
SP	1	277	35	242	312
SP	2	304	26	278	330
SP	3	322	23	299	345
SP	4	336	21	315	357
SP	5	349	20	329	369
SP	6	360	19	341	379
SP	7	371	19	352	390
SP	8	381	19	362	400
SP	9	392	19	373	411
SP	10	403	20	383	423
SP	11	415	21	394	436
SP	12	429	22	407	451
SP	13	447	26	421	473
SP	14	474	35	439	509
SP	15	499	48	451	547
NC	0	247	48	240 ^a	295
NC	1	272	35	240 ^a	307

Table 4.22 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	2	299	26	273	325
NC	3	317	23	294	340
NC	4	331	21	310	352
NC	5	343	19	324	362
NC	6	354	19	335	373
NC	7	365	19	346	384
NC	8	375	19	356	394
NC	9	386	19	367	405
NC	10	398	20	378	418
NC	11	411	22	389	433
NC	12	429	26	403	455
NC	13	455	35	420	490
NC	14	479	48	431	527
PR	0	278	50	240 ^a	328
PR	1	305	37	268	342
PR	2	336	28	308	364
PR	3	355	24	331	379
PR	4	371	22	349	393
PR	5	384	20	364	404
PR	6	397	20	377	417
PR	7	409	20	389	429
PR	8	421	21	400	442
PR	9	435	22	413	457
PR	10	452	25	427	477
PR	11	473	28	445	501
PR	12	501	32	469	533
PR	13	537	39	498	576
PR	14	567	51	516	618

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.23 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 5 Form A

Form A				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
0	240 ^a	44	240 ^a	268
1	246	31	240 ^a	277
2	269	23	246	292
3	283	19	264	302
4	293	17	276	310
5	301	15	286	316
6	308	14	294	322
7	313	13	300	326
8	319	12	307	331
9	323	12	311	335
10	328	11	317	339
11	332	11	321	343
12	336	11	325	347
13	339	10	329	349
14	342	10	332	352
15	346	10	336	356
16	349	10	339	359
17	352	9	343	361
18	355	9	346	364
19	357	9	348	366
20	360	9	351	369
21	363	9	354	372
22	365	9	356	374
23	368	9	359	377
24	370	9	361	379
25	372	9	363	381
26	375	8	367	383
27	377	8	369	385
28	379	8	371	387
29	382	8	374	390
30	384	8	376	392
31	386	8	378	394
32	388	8	380	396
33	391	8	383	399
34	393	8	385	401
35	395	8	387	403
36	397	8	389	405
37	399	8	391	407
38	402	8	394	410
39	404	8	396	412
40	406	8	398	414
41	408	8	400	416
42	410	8	402	418
43	413	8	405	421
44	415	8	407	423
45	417	8	409	425

Table 4.23 (continued)

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	419	8	411	427
47	422	8	414	430
48	424	8	416	432
49	426	9	417	435
50	429	9	420	438
51	431	9	422	440
52	434	9	425	443
53	436	9	427	445
54	439	9	430	448
55	442	9	433	451
56	444	9	435	453
57	447	10	437	457
58	450	10	440	460
59	453	10	443	463
60	457	10	447	467
61	460	11	449	471
62	464	11	453	475
63	468	11	457	479
64	472	12	460	484
65	477	12	465	489
66	482	13	469	495
67	488	14	474	502
68	494	15	479	509
69	502	16	486	518
70	511	18	493	529
71	523	20	503	543
72	538	24	514	562
73	563	32	531	595
74	586	45	541	631

Note. ^aLOSS was set to 240.

Table 4.24 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 5 Form F

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	240 ^a	44	240 ^a	266
1	244	32	240 ^a	276
2	267	23	244	290
3	281	19	262	300
4	291	17	274	308
5	300	15	285	315
6	307	14	293	321
7	313	13	300	326
8	318	12	306	330
9	323	12	311	335
10	327	11	316	338
11	331	11	320	342
12	335	11	324	346
13	339	10	329	349
14	342	10	332	352
15	345	10	335	355
16	349	10	339	359
17	352	10	342	362
18	355	9	346	364
19	357	9	348	366
20	360	9	351	369
21	363	9	354	372
22	365	9	356	374
23	368	9	359	377
24	370	9	361	379
25	373	9	364	382
26	375	9	366	384
27	378	9	369	387
28	380	8	372	388
29	382	8	374	390
30	385	8	377	393
31	387	8	379	395
32	389	8	381	397
33	391	8	383	399
34	394	8	386	402
35	396	8	388	404
36	398	8	390	406
37	400	8	392	408
38	402	8	394	410
39	405	8	397	413
40	407	8	399	415
41	409	8	401	417
42	411	8	403	419
43	414	8	406	422
44	416	8	408	424
45	418	8	410	426

Table 4.24 (continued)

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	421	8	413	429
47	423	8	415	431
48	425	9	416	434
49	428	9	419	437
50	430	9	421	439
51	433	9	424	442
52	435	9	426	444
53	438	9	429	447
54	440	9	431	449
55	443	9	434	452
56	446	9	437	455
57	449	10	439	459
58	452	10	442	462
59	455	10	445	465
60	459	10	449	469
61	462	11	451	473
62	466	11	455	477
63	470	11	459	481
64	474	12	462	486
65	479	12	467	491
66	484	13	471	497
67	490	14	476	504
68	497	15	482	512
69	505	16	489	521
70	514	18	496	532
71	525	20	505	545
72	541	24	517	565
73	566	33	533	599
74	589	45	544	634

Note. ^aLOSS was set to 240.

Table 4.25 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	263	45	240 ^a	308
AL	1	286	33	253	319
AL	2	312	25	287	337
AL	3	328	21	307	349
AL	4	342	20	322	362
AL	5	354	19	335	373
AL	6	365	18	347	383
AL	7	375	18	357	393
AL	8	386	18	368	404
AL	9	397	18	379	415
AL	10	408	19	389	427
AL	11	420	20	400	440
AL	12	434	22	412	456
AL	13	451	25	426	476
AL	14	477	33	444	510
AL	15	501	45	456	546
GM	0	297	45	252	342
GM	1	321	33	288	354
GM	2	347	25	322	372
GM	3	364	22	342	386
GM	4	378	20	358	398
GM	5	390	19	371	409
GM	6	402	18	384	420
GM	7	412	18	394	430
GM	8	423	18	405	441
GM	9	434	19	415	453
GM	10	446	19	427	465
GM	11	459	21	438	480
GM	12	475	24	451	499
GM	13	500	32	468	532
GM	14	523	45	478	568
SP	0	276	45	240 ^a	321
SP	1	299	33	266	332
SP	2	325	24	301	349
SP	3	341	21	320	362
SP	4	354	19	335	373
SP	5	366	18	348	384
SP	6	376	18	358	394
SP	7	387	18	369	405
SP	8	398	18	380	416
SP	9	409	19	390	428
SP	10	422	21	401	443
SP	11	438	24	414	462
SP	12	463	32	431	495
SP	13	486	45	441	531
NC	0	284	45	240 ^a	329
NC	1	307	32	275	339
NC	2	331	24	307	355

Table 4.25 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
NC	3	347	21	326	368
NC	4	360	19	341	379
NC	5	370	18	352	388
NC	6	380	17	363	397
NC	7	390	17	373	407
NC	8	399	17	382	416
NC	9	408	17	391	425
NC	10	418	18	400	436
NC	11	429	19	410	448
NC	12	441	21	420	462
NC	13	457	24	433	481
NC	14	482	32	450	514
NC	15	505	45	460	550
PR	0	270	48	240 ^a	318
PR	1	298	37	261	335
PR	2	332	29	303	361
PR	3	356	25	331	381
PR	4	374	23	351	397
PR	5	390	21	369	411
PR	6	403	19	384	422
PR	7	414	18	396	432
PR	8	425	18	407	443
PR	9	435	17	418	452
PR	10	445	18	427	463
PR	11	455	18	437	473
PR	12	467	20	447	487
PR	13	481	21	460	502
PR	14	497	23	474	520
PR	15	517	27	490	544
PR	16	547	35	512	582
PR	17	573	46	527	619

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.26 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	264	45	240 ^a	309
AL	1	287	32	255	319
AL	2	312	24	288	336
AL	3	328	21	307	349
AL	4	341	19	322	360
AL	5	353	18	335	371
AL	6	363	18	345	381
AL	7	373	18	355	391
AL	8	384	18	366	402
AL	9	394	18	376	412
AL	10	405	19	386	424
AL	11	417	20	397	437
AL	12	430	22	408	452
AL	13	448	25	423	473
AL	14	474	33	441	507
AL	15	498	45	453	543
GM	0	304	45	259	349
GM	1	327	33	294	360
GM	2	353	25	328	378
GM	3	371	22	349	393
GM	4	385	20	365	405
GM	5	397	19	378	416
GM	6	408	18	390	426
GM	7	418	18	400	436
GM	8	428	18	410	446
GM	9	439	18	421	457
GM	10	450	19	431	469
GM	11	463	21	442	484
GM	12	479	24	455	503
GM	13	504	32	472	536
GM	14	527	45	482	572
SP	0	274	45	240 ^a	319
SP	1	297	33	264	330
SP	2	322	25	297	347
SP	3	339	21	318	360
SP	4	352	19	333	371
SP	5	364	18	346	382
SP	6	375	18	357	393
SP	7	385	18	367	403
SP	8	396	18	378	414
SP	9	407	19	388	426
SP	10	420	21	399	441
SP	11	436	24	412	460
SP	12	461	32	429	493
SP	13	484	45	439	529
NC	0	284	45	240 ^a	329
NC	1	307	32	275	339
NC	2	332	24	308	356
NC	3	348	21	327	369

Table 4.26 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	4	361	19	342	380
NC	5	372	18	354	390
NC	6	382	17	365	399
NC	7	392	17	375	409
NC	8	402	17	385	419
NC	9	411	17	394	428
NC	10	421	18	403	439
NC	11	433	19	414	452
NC	12	445	21	424	466
NC	13	462	24	438	486
NC	14	487	32	455	519
NC	15	510	45	465	555
PR	0	261	48	240 ^a	309
PR	1	290	37	253	327
PR	2	325	30	295	355
PR	3	351	27	324	378
PR	4	372	24	348	396
PR	5	389	22	367	411
PR	6	403	20	383	423
PR	7	415	19	396	434
PR	8	426	18	408	444
PR	9	436	18	418	454
PR	10	446	18	428	464
PR	11	457	19	438	476
PR	12	470	20	450	490
PR	13	483	22	461	505
PR	14	500	24	476	524
PR	15	521	27	494	548
PR	16	551	35	516	586
PR	17	577	46	531	623

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.27 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 6 Form A

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	242	42	240 ^a	284
1	263	30	240 ^a	293
2	284	22	262	306
3	297	18	279	315
4	306	16	290	322
5	314	14	300	328
6	320	13	307	333
7	326	12	314	338
8	331	12	319	343
9	335	11	324	346
10	339	11	328	350
11	343	10	333	353
12	346	10	336	356
13	350	10	340	360
14	353	10	343	363
15	356	9	347	365
16	359	9	350	368
17	361	9	352	370
18	364	9	355	373
19	366	9	357	375
20	369	9	360	378
21	371	8	363	379
22	374	8	366	382
23	376	8	368	384
24	378	8	370	386
25	381	8	373	389
26	383	8	375	391
27	385	8	377	393
28	387	8	379	395
29	389	8	381	397
30	391	8	383	399
31	393	8	385	401
32	395	8	387	403
33	397	8	389	405
34	399	8	391	407
35	401	8	393	409
36	403	8	395	411
37	405	8	397	413
38	407	8	399	415
39	410	8	402	418
40	412	8	404	420
41	414	8	406	422
42	416	8	408	424
43	418	8	410	426
44	420	8	412	428
45	422	8	414	430

Table 4.27 (continued)

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	424	8	416	432
47	427	8	419	435
48	429	8	421	437
49	431	8	423	439
50	434	9	425	443
51	436	9	427	445
52	439	9	430	448
53	441	9	432	450
54	444	9	435	453
55	447	9	438	456
56	450	10	440	460
57	453	10	443	463
58	456	10	446	466
59	460	10	450	470
60	464	11	453	475
61	468	11	457	479
62	472	12	460	484
63	477	13	464	490
64	483	13	470	496
65	490	14	476	504
66	497	16	481	513
67	507	18	489	525
68	520	22	498	542
69	542	30	512	572
70	564	42	522	606

Note. ^aLOSS was set to 240.

Table 4.28 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 6 Form F

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	240 ^a	42	240 ^a	280
1	259	30	240 ^a	289
2	281	22	259	303
3	294	18	276	312
4	303	16	287	319
5	311	14	297	325
6	317	13	304	330
7	323	12	311	335
8	328	12	316	340
9	332	11	321	343
10	337	11	326	348
11	340	10	330	350
12	344	10	334	354
13	347	10	337	357
14	351	10	341	361
15	354	9	345	363
16	357	9	348	366
17	359	9	350	368
18	362	9	353	371
19	365	9	356	374
20	367	9	358	376
21	370	9	361	379
22	372	8	364	380
23	375	8	367	383
24	377	8	369	385
25	379	8	371	387
26	382	8	374	390
27	384	8	376	392
28	386	8	378	394
29	388	8	380	396
30	390	8	382	398
31	392	8	384	400
32	395	8	387	403
33	397	8	389	405
34	399	8	391	407
35	401	8	393	409
36	403	8	395	411
37	405	8	397	413
38	407	8	399	415
39	409	8	401	417
40	411	8	403	419
41	414	8	406	422
42	416	8	408	424
43	418	8	410	426
44	420	8	412	428
45	422	8	414	430

Table 4.28 (continued)

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	425	8	417	433
47	427	8	419	435
48	429	8	421	437
49	432	9	423	441
50	434	9	425	443
51	437	9	428	446
52	439	9	430	448
53	442	9	433	451
54	445	9	436	454
55	448	9	439	457
56	451	10	441	461
57	454	10	444	464
58	458	10	448	468
59	461	11	450	472
60	465	11	454	476
61	470	11	459	481
62	474	12	462	486
63	479	13	466	492
64	485	13	472	498
65	492	15	477	507
66	500	16	484	516
67	509	18	491	527
68	523	22	501	545
69	545	30	515	575
70	566	42	524	608

Note. ^aLOSS was set to 240.

Table 4.29 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	283	43	240	326
AL	1	305	32	273	337
AL	2	330	24	306	354
AL	3	347	21	326	368
AL	4	360	19	341	379
AL	5	372	18	354	390
AL	6	382	17	365	399
AL	7	392	17	375	409
AL	8	402	17	385	419
AL	9	412	18	394	430
AL	10	423	18	405	441
AL	11	435	20	415	455
AL	12	451	23	428	474
AL	13	475	31	444	506
AL	14	497	43	454	540
GM	0	303	43	260	346
GM	1	326	31	295	357
GM	2	350	23	327	373
GM	3	366	20	346	386
GM	4	378	18	360	396
GM	5	389	17	372	406
GM	6	399	17	382	416
GM	7	409	17	392	426
GM	8	418	17	401	435
GM	9	428	18	410	446
GM	10	439	18	421	457
GM	11	452	20	432	472
GM	12	467	23	444	490
GM	13	492	31	461	523
GM	14	514	43	471	557
SP	0	288	43	245	331
SP	1	311	32	279	343
SP	2	335	24	311	359
SP	3	351	21	330	372
SP	4	365	19	346	384
SP	5	376	18	358	394
SP	6	387	18	369	405
SP	7	398	18	380	416
SP	8	409	18	391	427
SP	9	421	19	402	440
SP	10	434	21	413	455
SP	11	450	24	426	474
SP	12	475	31	444	506
SP	13	497	43	454	540
NC	0	300	43	257	343
NC	1	322	31	291	353
NC	2	347	23	324	370
NC	3	362	20	342	382

Table 4.29 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	4	375	18	357	393
NC	5	385	17	368	402
NC	6	395	17	378	412
NC	7	404	17	387	421
NC	8	414	17	397	431
NC	9	423	17	406	440
NC	10	434	18	416	452
NC	11	446	20	426	466
NC	12	461	23	438	484
NC	13	484	31	453	515
NC	14	506	43	463	549
PR	0	286	44	242	330
PR	1	309	32	277	341
PR	2	335	25	310	360
PR	3	353	22	331	375
PR	4	367	20	347	387
PR	5	380	19	361	399
PR	6	392	18	374	410
PR	7	403	18	385	421
PR	8	415	18	397	433
PR	9	426	19	407	445
PR	10	438	19	419	457
PR	11	452	20	432	472
PR	12	467	22	445	489
PR	13	486	25	461	511
PR	14	513	33	480	546
PR	15	537	44	493	581

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.30 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	278	43	240 ^a	321
AL	1	301	32	269	333
AL	2	326	24	302	350
AL	3	343	21	322	364
AL	4	356	19	337	375
AL	5	368	18	350	386
AL	6	379	18	361	397
AL	7	389	17	372	406
AL	8	399	17	382	416
AL	9	410	18	392	428
AL	10	421	19	402	440
AL	11	434	20	414	454
AL	12	450	24	426	474
AL	13	474	32	442	506
AL	14	497	43	454	540
GM	0	291	44	247	335
GM	1	314	32	282	346
GM	2	340	25	315	365
GM	3	358	21	337	379
GM	4	371	19	352	390
GM	5	383	18	365	401
GM	6	394	18	376	412
GM	7	404	17	387	421
GM	8	415	18	397	433
GM	9	425	18	407	443
GM	10	437	19	418	456
GM	11	451	21	430	472
GM	12	468	24	444	492
GM	13	494	32	462	526
GM	14	517	44	473	561
SP	0	285	43	242	328
SP	1	307	32	275	339
SP	2	332	24	308	356
SP	3	349	21	328	370
SP	4	362	19	343	381
SP	5	374	18	356	392
SP	6	385	18	367	403
SP	7	395	18	377	413
SP	8	406	18	388	424
SP	9	418	19	399	437
SP	10	431	21	410	452
SP	11	448	24	424	472
SP	12	472	31	441	503
SP	13	495	43	452	538
NC	0	300	43	257	343
NC	1	323	31	292	354
NC	2	347	23	324	370
NC	3	363	20	343	383

Table 4.30 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	4	375	18	357	393
NC	5	386	17	369	403
NC	6	396	17	379	413
NC	7	405	17	388	422
NC	8	414	17	397	431
NC	9	424	17	407	441
NC	10	434	18	416	452
NC	11	446	20	426	466
NC	12	461	23	438	484
NC	13	485	31	454	516
NC	14	507	43	464	550
PR	0	289	44	245	333
PR	1	313	33	280	346
PR	2	340	25	315	365
PR	3	359	22	337	381
PR	4	374	20	354	394
PR	5	387	19	368	406
PR	6	399	19	380	418
PR	7	411	19	392	430
PR	8	423	18	405	441
PR	9	434	19	415	453
PR	10	446	19	427	465
PR	11	459	20	439	479
PR	12	474	22	452	496
PR	13	492	25	467	517
PR	14	518	32	486	550
PR	15	541	44	497	585

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.31 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 7 Form A

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	243	41	240 ^a	284
1	265	30	240 ^a	295
2	288	22	266	310
3	302	18	284	320
4	312	16	296	328
5	320	14	306	334
6	326	13	313	339
7	332	12	320	344
8	337	12	325	349
9	341	11	330	352
10	346	10	336	356
11	349	10	339	359
12	353	10	343	363
13	356	9	347	365
14	359	9	350	368
15	362	9	353	371
16	365	9	356	374
17	368	9	359	377
18	370	8	362	378
19	373	8	365	381
20	375	8	367	383
21	377	8	369	385
22	380	8	372	388
23	382	8	374	390
24	384	8	376	392
25	386	8	378	394
26	389	8	381	397
27	391	8	383	399
28	393	8	385	401
29	395	8	387	403
30	397	8	389	405
31	399	8	391	407
32	401	8	393	409
33	403	8	395	411
34	405	8	397	413
35	407	8	399	415
36	409	8	401	417
37	412	8	404	420
38	414	8	406	422
39	416	8	408	424
40	418	8	410	426
41	420	8	412	428
42	422	8	414	430
43	424	8	416	432
44	426	8	418	434
45	429	8	421	437

Table 4.31 (continued)

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	431	8	423	439
47	433	8	425	441
48	436	8	428	444
49	438	8	430	446
50	440	8	432	448
51	443	8	435	451
52	446	9	437	455
53	448	9	439	457
54	451	9	442	460
55	454	9	445	463
56	457	9	448	466
57	460	9	451	469
58	463	10	453	473
59	467	10	457	477
60	470	10	460	480
61	474	11	463	485
62	478	11	467	489
63	483	12	471	495
64	488	12	476	500
65	494	13	481	507
66	500	14	486	514
67	508	15	493	523
68	517	17	500	534
69	529	20	509	549
70	547	25	522	572
71	577	34	543	611
72	604	45	559	649

Note. ^aLOSS was set to 240.

Table 4.32 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 7 Form F

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	249	40	240 ^a	289
1	269	29	240	298
2	290	20	270	310
3	302	17	285	319
4	311	15	296	326
5	318	13	305	331
6	324	12	312	336
7	329	12	317	341
8	333	11	322	344
9	337	10	327	347
10	341	10	331	351
11	345	10	335	355
12	348	9	339	357
13	351	9	342	360
14	354	9	345	363
15	357	9	348	366
16	359	9	350	368
17	362	8	354	370
18	364	8	356	372
19	367	8	359	375
20	369	8	361	377
21	371	8	363	379
22	374	8	366	382
23	376	8	368	384
24	378	8	370	386
25	380	8	372	388
26	382	8	374	390
27	384	8	376	392
28	386	8	378	394
29	388	8	380	396
30	390	8	382	398
31	392	8	384	400
32	394	8	386	402
33	397	8	389	405
34	399	8	391	407
35	401	8	393	409
36	403	8	395	411
37	405	8	397	413
38	407	8	399	415
39	409	8	401	417
40	411	8	403	419
41	413	8	405	421
42	415	8	407	423
43	417	8	409	425
44	420	8	412	428
45	422	8	414	430

Table 4.32 (continued)

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	424	8	416	432
47	426	8	418	434
48	429	8	421	437
49	431	8	423	439
50	434	8	426	442
51	436	9	427	445
52	439	9	430	448
53	442	9	433	451
54	444	9	435	453
55	447	9	438	456
56	450	9	441	459
57	454	10	444	464
58	457	10	447	467
59	461	10	451	471
60	464	11	453	475
61	469	11	458	480
62	473	12	461	485
63	478	12	466	490
64	484	13	471	497
65	490	14	476	504
66	497	15	482	512
67	505	16	489	521
68	516	18	498	534
69	529	21	508	550
70	547	25	522	572
71	575	32	543	607
72	599	43	556	642

Note. ^aLOSS was set to 240.

Table 4.33 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	306	41	265	347
AL	1	328	30	298	358
AL	2	351	22	329	373
AL	3	366	19	347	385
AL	4	378	18	360	396
AL	5	389	17	372	406
AL	6	400	17	383	417
AL	7	410	17	393	427
AL	8	420	17	403	437
AL	9	431	18	413	449
AL	10	443	19	424	462
AL	11	456	20	436	476
AL	12	473	23	450	496
AL	13	498	31	467	529
AL	14	520	42	478	562
GM	0	315	41	274	356
GM	1	336	30	306	366
GM	2	360	23	337	383
GM	3	376	20	356	396
GM	4	389	19	370	408
GM	5	400	18	382	418
GM	6	412	18	394	430
GM	7	423	18	405	441
GM	8	434	18	416	452
GM	9	446	19	427	465
GM	10	460	21	439	481
GM	11	478	24	454	502
GM	12	503	31	472	534
GM	13	526	42	484	568
SP	0	295	41	254	336
SP	1	316	30	286	346
SP	2	338	22	316	360
SP	3	353	19	334	372
SP	4	365	17	348	382
SP	5	375	16	359	391
SP	6	384	16	368	400
SP	7	393	16	377	409
SP	8	402	16	386	418
SP	9	412	16	396	428
SP	10	422	17	405	439
SP	11	433	19	414	452
SP	12	448	22	426	470
SP	13	471	30	441	501
SP	14	492	41	451	533
NC	0	294	42	252	336
NC	1	317	32	285	349
NC	2	343	24	319	367
NC	3	361	21	340	382

Table 4.33 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	4	374	19	355	393
NC	5	386	18	368	404
NC	6	397	17	380	414
NC	7	407	17	390	424
NC	8	417	17	400	434
NC	9	427	17	410	444
NC	10	438	18	420	456
NC	11	451	20	431	471
NC	12	467	23	444	490
NC	13	490	30	460	520
NC	14	512	41	471	553
PR	0	272	47	240 ^a	319
PR	1	302	37	265	339
PR	2	337	27	310	364
PR	3	357	22	335	379
PR	4	372	19	353	391
PR	5	384	18	366	402
PR	6	396	18	378	414
PR	7	407	18	389	425
PR	8	418	18	400	436
PR	9	430	18	412	448
PR	10	441	18	423	459
PR	11	453	18	435	471
PR	12	465	19	446	484
PR	13	480	21	459	501
PR	14	498	24	474	522
PR	15	522	29	493	551
PR	16	563	39	524	602
PR	17	596	48	548	644

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.34 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	300	41	259	341
AL	1	321	30	291	351
AL	2	345	23	322	368
AL	3	360	20	340	380
AL	4	373	18	355	391
AL	5	384	17	367	401
AL	6	394	17	377	411
AL	7	404	17	387	421
AL	8	414	17	397	431
AL	9	424	17	407	441
AL	10	435	18	417	453
AL	11	448	20	428	468
AL	12	464	23	441	487
AL	13	488	30	458	518
AL	14	510	41	469	551
GM	0	317	41	276	358
GM	1	338	30	308	368
GM	2	361	22	339	383
GM	3	377	19	358	396
GM	4	389	18	371	407
GM	5	400	17	383	417
GM	6	410	17	393	427
GM	7	420	17	403	437
GM	8	430	17	413	447
GM	9	441	18	423	459
GM	10	453	19	434	472
GM	11	469	22	447	491
GM	12	492	30	462	522
GM	13	513	41	472	554
SP	0	291	41	250	332
SP	1	312	30	282	342
SP	2	335	22	313	357
SP	3	350	19	331	369
SP	4	362	18	344	380
SP	5	372	17	355	389
SP	6	382	16	366	398
SP	7	391	16	375	407
SP	8	400	16	384	416
SP	9	409	16	393	425
SP	10	419	17	402	436
SP	11	431	19	412	450
SP	12	446	22	424	468
SP	13	468	30	438	498
SP	14	489	41	448	530
NC	0	294	42	252	336
NC	1	317	32	285	349
NC	2	343	24	319	367
NC	3	361	21	340	382

Table 4.34 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	4	375	19	356	394
NC	5	386	18	368	404
NC	6	397	17	380	414
NC	7	408	17	391	425
NC	8	418	17	401	435
NC	9	428	17	411	445
NC	10	440	18	422	458
NC	11	453	20	433	473
NC	12	469	23	446	492
NC	13	493	30	463	523
NC	14	515	41	474	556
PR	0	288	40	248	328
PR	1	308	29	279	337
PR	2	330	21	309	351
PR	3	343	18	325	361
PR	4	354	17	337	371
PR	5	363	16	347	379
PR	6	372	16	356	388
PR	7	381	16	365	397
PR	8	391	17	374	408
PR	9	402	18	384	420
PR	10	415	20	395	435
PR	11	431	22	409	453
PR	12	451	25	426	476
PR	13	474	27	447	501
PR	14	500	28	472	528
PR	15	530	30	500	560
PR	16	566	35	531	601
PR	17	593	45	548	638

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.35 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 8 Form A

Form A				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
0	268	40	240 ^a	308
1	288	29	259	317
2	308	21	287	329
3	321	17	304	338
4	330	15	315	345
5	337	14	323	351
6	343	13	330	356
7	348	12	336	360
8	353	11	342	364
9	357	11	346	368
10	361	10	351	371
11	364	10	354	374
12	367	10	357	377
13	371	9	362	380
14	373	9	364	382
15	376	9	367	385
16	379	9	370	388
17	382	8	374	390
18	384	8	376	392
19	386	8	378	394
20	389	8	381	397
21	391	8	383	399
22	393	8	385	401
23	396	8	388	404
24	398	8	390	406
25	400	8	392	408
26	402	8	394	410
27	404	8	396	412
28	406	8	398	414
29	408	8	400	416
30	410	7	403	417
31	412	7	405	419
32	414	7	407	421
33	416	7	409	423
34	418	7	411	425
35	420	7	413	427
36	421	7	414	428
37	423	7	416	430
38	425	7	418	432
39	427	7	420	434
40	429	7	422	436
41	431	7	424	438
42	433	7	426	440
43	435	7	428	442
44	437	7	430	444
45	439	7	432	446

Table 4.35 (continued)

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	441	8	433	449
47	443	8	435	451
48	445	8	437	453
49	447	8	439	455
50	449	8	441	457
51	451	8	443	459
52	453	8	445	461
53	456	8	448	464
54	458	8	450	466
55	460	8	452	468
56	463	9	454	472
57	465	9	456	474
58	468	9	459	477
59	471	9	462	480
60	474	9	465	483
61	477	10	467	487
62	481	10	471	491
63	485	11	474	496
64	489	11	478	500
65	493	12	481	505
66	498	12	486	510
67	504	13	491	517
68	510	14	496	524
69	518	16	502	534
70	528	18	510	546
71	542	22	520	564
72	564	30	534	594
73	585	41	544	626

Note. ^aLOSS was set to 240.

Table 4.36 The 2008 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 8 Form F

Form F				
Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
0	259	41	240 ^a	300
1	279	29	250	308
2	300	21	279	321
3	313	17	296	330
4	322	15	307	337
5	329	14	315	343
6	336	13	323	349
7	341	12	329	353
8	346	11	335	357
9	350	11	339	361
10	354	10	344	364
11	358	10	348	368
12	362	10	352	372
13	365	10	355	375
14	368	9	359	377
15	371	9	362	380
16	374	9	365	383
17	377	9	368	386
18	379	9	370	388
19	382	8	374	390
20	384	8	376	392
21	387	8	379	395
22	389	8	381	397
23	391	8	383	399
24	394	8	386	402
25	396	8	388	404
26	398	8	390	406
27	400	8	392	408
28	402	8	394	410
29	404	8	396	412
30	406	8	398	414
31	408	8	400	416
32	410	8	402	418
33	412	8	404	420
34	414	7	407	421
35	416	7	409	423
36	418	7	411	425
37	420	7	413	427
38	422	7	415	429
39	424	7	417	431
40	426	7	419	433
41	428	7	421	435
42	430	7	423	437
43	432	7	425	439
44	434	8	426	442
45	436	8	428	444

Table 4.36 (continued)

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SE)	SS - 1SE	SS + 1SE
46	438	8	430	446
47	440	8	432	448
48	442	8	434	450
49	444	8	436	452
50	446	8	438	454
51	448	8	440	456
52	451	8	443	459
53	453	8	445	461
54	455	8	447	463
55	458	8	450	466
56	460	8	452	468
57	463	9	454	472
58	465	9	456	474
59	468	9	459	477
60	471	9	462	480
61	474	10	464	484
62	478	10	468	488
63	481	10	471	491
64	485	11	474	496
65	490	11	479	501
66	494	12	482	506
67	500	13	487	513
68	506	14	492	520
69	514	16	498	530
70	524	18	506	542
71	537	21	516	558
72	559	30	529	589
73	580	41	539	621

Note. ^aLOSS was set to 240.

Table 4.37 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form A

Strand	Raw Score	Form A			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	322	41	281	363
AL	1	343	30	313	373
AL	2	366	22	344	388
AL	3	381	19	362	400
AL	4	393	18	375	411
AL	5	404	17	387	421
AL	6	413	16	397	429
AL	7	422	16	406	438
AL	8	431	16	415	447
AL	9	440	16	424	456
AL	10	450	17	433	467
AL	11	460	18	442	478
AL	12	472	19	453	491
AL	13	487	22	465	509
AL	14	510	30	480	540
AL	15	532	41	491	573
GM	0	326	42	284	368
GM	1	347	30	317	377
GM	2	371	23	348	394
GM	3	387	20	367	407
GM	4	400	18	382	418
GM	5	412	17	395	429
GM	6	422	17	405	439
GM	7	432	17	415	449
GM	8	442	17	425	459
GM	9	453	18	435	471
GM	10	466	20	446	486
GM	11	481	23	458	504
GM	12	504	30	474	534
GM	13	526	41	485	567
SP	0	315	41	274	356
SP	1	336	30	306	366
SP	2	359	23	336	382
SP	3	375	20	355	395
SP	4	387	18	369	405
SP	5	398	17	381	415
SP	6	408	17	391	425
SP	7	418	17	401	435
SP	8	429	17	412	446
SP	9	439	18	421	457
SP	10	452	19	433	471
SP	11	466	21	445	487
SP	12	484	25	459	509
SP	13	512	32	480	544
SP	14	536	43	493	579
NC	0	325	41	284	366
NC	1	346	30	316	376
NC	2	370	23	347	393

Table 4.37 (continued)

Form A					
Strand	Raw Score	Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
NC	3	386	20	366	406
NC	4	399	19	380	418
NC	5	411	18	393	429
NC	6	423	18	405	441
NC	7	435	18	417	453
NC	8	447	19	428	466
NC	9	461	21	440	482
NC	10	478	23	455	501
NC	11	503	31	472	534
NC	12	525	42	483	567
PR	0	298	41	257	339
PR	1	320	30	290	350
PR	2	343	22	321	365
PR	3	358	19	339	377
PR	4	370	17	353	387
PR	5	380	16	364	396
PR	6	389	16	373	405
PR	7	398	15	383	413
PR	8	406	15	391	421
PR	9	414	15	399	429
PR	10	422	15	407	437
PR	11	429	15	414	444
PR	12	437	15	422	452
PR	13	444	15	429	459
PR	14	453	16	437	469
PR	15	462	17	445	479
PR	16	474	20	454	494
PR	17	492	25	467	517
PR	18	524	36	488	560
PR	19	553	46	507	599

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.38 The 2008 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form F

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS – 1SE	SS + 1SE
AL	0	314	42	272	356
AL	1	336	31	305	367
AL	2	361	23	338	384
AL	3	377	20	357	397
AL	4	390	18	372	408
AL	5	401	17	384	418
AL	6	411	17	394	428
AL	7	420	16	404	436
AL	8	430	16	414	446
AL	9	439	16	423	455
AL	10	449	17	432	466
AL	11	459	18	441	477
AL	12	471	19	452	490
AL	13	486	22	464	508
AL	14	509	30	479	539
AL	15	531	41	490	572
GM	0	324	42	282	366
GM	1	346	30	316	376
GM	2	370	23	347	393
GM	3	386	20	366	406
GM	4	399	18	381	417
GM	5	410	18	392	428
GM	6	421	17	404	438
GM	7	431	17	414	448
GM	8	442	18	424	460
GM	9	453	18	435	471
GM	10	466	20	446	486
GM	11	481	23	458	504
GM	12	505	30	475	535
GM	13	527	41	486	568
SP	0	306	42	264	348
SP	1	328	30	298	358
SP	2	352	23	329	375
SP	3	367	20	347	387
SP	4	380	18	362	398
SP	5	391	17	374	408
SP	6	402	17	385	419
SP	7	412	17	395	429
SP	8	422	17	405	439
SP	9	432	17	415	449
SP	10	444	18	426	462
SP	11	456	20	436	476
SP	12	472	23	449	495
SP	13	496	30	466	526
SP	14	518	42	476	560
NC	0	322	41	281	363
NC	1	344	30	314	374
NC	2	367	23	344	390

Table 4.38 (continued)

Strand	Raw Score	Form F			
		Scale Score (SS)	Standard Error (SE)	SS - 1SE	SS + 1SE
NC	3	383	20	363	403
NC	4	396	18	378	414
NC	5	408	18	390	426
NC	6	419	18	401	437
NC	7	430	18	412	448
NC	8	442	19	423	461
NC	9	455	20	435	475
NC	10	471	23	448	494
NC	11	496	31	465	527
NC	12	518	42	476	560
PR	0	285	42	243	327
PR	1	307	31	276	338
PR	2	332	23	309	355
PR	3	348	20	328	368
PR	4	361	19	342	380
PR	5	373	18	355	391
PR	6	383	17	366	400
PR	7	393	16	377	409
PR	8	402	16	386	418
PR	9	411	16	395	427
PR	10	419	15	404	434
PR	11	428	15	413	443
PR	12	436	15	421	451
PR	13	444	15	429	459
PR	14	453	16	437	469
PR	15	463	18	445	481
PR	16	475	20	455	495
PR	17	493	25	468	518
PR	18	523	34	489	557
PR	19	550	45	505	595

Note. ^aLOSS was set to 240.

Note. AL=Algebra, GM=Geometry and Measurement, SP=Statistics and Probability, NC=Numbers and Computation, PR=Process.

Table 4.39 The 2008 MSA-Math Score Difference between Rater 1 and Rater 2: Grade 3

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	3509918	29,039	98.89	325	1.11			29,364	100.00
	0-2	3595500	25,244	85.97	4,048	13.79	72	0.25	29,364	100.00
	0-1	3509941	28,777	98.00	587	2.00			29,364	100.00
	0-2	3595501	24,220	82.48	5,037	17.15	107	0.36	29,364	100.00
	0-1	3509957	29,089	99.06	275	0.94			29,364	100.00
	0-2	3595502	24,815	84.51	4,516	15.38	33	0.11	29,364	100.00
	0-1	3510073	28,953	98.60	411	1.40			29,364	100.00
	0-2	3595503	23,226	79.10	6,069	20.67	69	0.23	29,364	100.00
	0-1	3510072	29,060	98.96	304	1.04			29,364	100.00
	0-2	3595504	24,335	82.87	4,871	16.59	158	0.54	29,364	100.00
	0-1	3510060	28,981	98.70	383	1.30			29,364	100.00
	0-2	3595505	25,493	86.82	3,806	12.96	65	0.22	29,364	100.00
	0-1	3510034	28,977	98.68	387	1.32			29,364	100.00
	0-2	3595506	22,607	76.99	6,734	22.93	23	0.08	29,364	100.00
F	0-1	3509918	28,856	98.64	397	1.36			29,253	100.00
	0-2	3595500	25,455	87.02	3,740	12.79	58	0.20	29,253	100.00
	0-1	3509941	28,702	98.12	551	1.88			29,253	100.00
	0-2	3595501	24,531	83.86	4,641	15.87	81	0.28	29,253	100.00
	0-1	3509922	28,957	98.99	296	1.01			29,253	100.00
	0-2	3595507	25,756	88.05	3,485	11.91	12	0.04	29,253	100.00
	0-1	3510067	28,936	98.92	317	1.08			29,253	100.00
	0-2	3595508	23,218	79.37	5,962	20.38	73	0.25	29,253	100.00
	0-1	3509924	28,447	97.24	806	2.76			29,253	100.00
	0-2	3595509	26,659	91.13	2,565	8.77	29	0.10	29,253	100.00
	0-1	3510060	28,991	99.10	262	0.90			29,253	100.00
	0-2	3595505	26,556	90.78	2,686	9.18	11	0.04	29,253	100.00
	0-1	3509932	28,987	99.09	266	0.91			29,253	100.00
	0-2	3595510	25,775	88.11	3,453	11.80	25	0.09	29,253	100.00

Note. Analysis was conducted with a statewide population.

Table 4.40 The 2008 MSA-Mathematics Score Difference between Rater 1 and Rater 2: Grade 4

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	100000044148	29,337	97.46	764	2.54			30,101	100.00
	0-2	3595498	24,615	81.77	5,392	17.91	94	0.31	30,101	100.00
	0-1	100000044142	29,839	99.13	262	0.87			30,101	100.00
	0-2	3595499	26,966	89.59	3,110	10.33	25	0.08	30,101	100.00
	0-1	3515648	29,757	98.86	344	1.14			30,101	100.00
	0-2	3595531	24,378	80.99	5,588	18.56	135	0.45	30,101	100.00
	0-1	3515823	29,654	98.51	447	1.49			30,101	100.00
	0-2	3595532	25,398	84.38	4,660	15.48	43	0.14	30,101	100.00
	0-1	3515807	29,558	98.20	543	1.80			30,101	100.00
	0-2	3595533	24,790	82.36	5,238	17.4	73	0.24	30,101	100.00
	0-1	3515886	29,300	97.34	801	2.66			30,101	100.00
	0-2	3595534	24,981	82.99	5,078	16.87	42	0.14	30,101	100.00
	0-1	3515843	29,920	99.40	181	0.60			30,101	100.00
	0-2	3595535	27,292	90.67	2,775	9.22	34	0.11	30,101	100.00
F	0-1	3515595	29,692	99.19	241	0.81			29,933	100.00
	0-2	3595536	24,305	81.20	5,592	18.68	36	0.12	29,933	100.00
	0-1	100000044142	29,636	99.01	297	0.99			29,933	100.00
	0-2	3595499	26,746	89.35	3,159	10.55	28	0.09	29,933	100.00
	0-1	3515648	29,548	98.71	385	1.29			29,933	100.00
	0-2	3595531	24,103	80.52	5,697	19.03	133	0.44	29,933	100.00
	0-1	3515646	29,643	99.03	290	0.97			29,933	100.00
	0-2	3595537	27,755	92.72	2,094	7.00	84	0.28	29,933	100.00
	0-1	3515807	29,441	98.36	492	1.64			29,933	100.00
	0-2	3595533	25,592	85.50	4,315	14.42	26	0.09	29,933	100.00
	0-1	3515783	29,431	98.32	502	1.68			29,933	100.00
	0-2	3595560	25,342	84.66	4,520	15.10	71	0.24	29,933	100.00
	0-1	3515830	29,685	99.17	248	0.83			29,933	100.00
	0-2	3595561	24,710	82.55	5,136	17.16	87	0.29	29,933	100.00

Note. Analysis was conducted with a statewide population.

Table 4.41 The 2008 MSA-Mathematics Score Difference between Rater 1 and Rater 2: Grade 5

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	3511531	30,093	98.55	444	1.45			30,537	100.00
	0-2	3595438	25,124	82.27	5,314	17.4	99	0.32	30,537	100.00
	0-1	3512615	30,023	98.32	514	1.68			30,537	100.00
	0-2	3595439	21,983	71.99	8,477	27.76	77	0.25	30,537	100.00
	0-1	3511336	29,801	97.59	736	2.41			30,537	100.00
	0-2	3595440	27,584	90.33	2,939	9.62	14	0.05	30,537	100.00
	0-1	3511258	30,277	99.15	260	0.85			30,537	100.00
	0-3	3595441	26,405	86.47	4,105	13.44	27	0.09	30,537	100.00
	0-1	3556476	30,132	98.67	405	1.33			30,537	100.00
	0-2	3595442	27,317	89.46	3,117	10.21	103	0.34	30,537	100.00
	0-1	3512618	29,630	97.03	907	2.97			30,537	100.00
	0-2	3595443	25,424	83.26	5,109	16.73	4	0.01	30,537	100.00
	0-1	3512564	28,753	94.16	1,784	5.84			30,537	100.00
	0-2	3595444	26,014	85.19	4,481	14.67	42	0.14	30,537	100.00
	0-1	3512644	29,460	96.47	1,077	3.53			30,537	100.00
	0-2	3595445	25,035	81.98	5,391	17.65	111	0.36	30,537	100.00
F	0-1	3511531	29,877	98.64	412	1.36			30,289	100.00
	0-2	3595438	24,722	81.62	5,490	18.13	77	0.25	30,289	100.00
	0-1	3512615	29,746	98.21	543	1.79			30,289	100.00
	0-2	3595439	22,461	74.16	7,773	25.66	55	0.18	30,289	100.00
	0-1	3511336	29,568	97.62	721	2.38			30,289	100.00
	0-2	3595440	27,705	91.47	2,563	8.46	21	0.07	30,289	100.00
	0-1	3511258	30,073	99.29	216	0.71			30,289	100.00
	0-3	3595441	26,892	88.78	3,377	11.15	20	0.07	30,289	100.00
	0-1	3556476	29,949	98.88	340	1.12			30,289	100.00
	0-2	3595442	27,225	89.88	2,955	9.76	109	0.36	30,289	100.00
	0-1	3512618	29,513	97.44	776	2.56			30,289	100.00
	0-2	3595443	26,012	85.88	4,268	14.09	9	0.03	30,289	100.00
	0-1	3512564	28,765	94.97	1,524	5.03			30,289	100.00
	0-2	3595444	26,909	88.84	3,370	11.13	10	0.03	30,289	100.00
	0-1	3512644	29,342	96.87	947	3.13			30,289	100.00
	0-2	3595445	24,918	82.27	5,295	17.48	76	0.25	30,289	100.00

Note. Analysis was conducted with a statewide population.

Note. Bold-faced item indicates a ECR item.

Table 4.42 The 2008 MSA-Mathematics Score Difference between Rater 1 and Rater 2: Grade 6

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	3517004	30,571	98.43	489	1.57			31,060	100.00
	0-3	3595446	20,420	65.74	9,897	31.86	743	2.39	31,060	100.00
	0-1	3516627	30,488	98.16	572	1.84			31,060	100.00
	0-2	3595447	27,057	87.11	3,954	12.73	49	0.16	31,060	100.00
	0-1	3516363	30,748	99.00	312	1.00			31,060	100.00
	0-2	3595448	28,569	91.98	2,429	7.82	62	0.20	31,060	100.00
	0-1	3516333	30,270	97.46	790	2.54			31,060	100.00
	0-2	3595449	24,460	78.75	6,525	21.01	75	0.24	31,060	100.00
	0-1	3517013	30,442	98.01	618	1.99			31,060	100.00
	0-2	3595450	29,017	93.42	2,026	6.52	17	0.05	31,060	100.00
	0-1	3516616	30,633	98.63	427	1.37			31,060	100.00
	0-2	3595451	28,377	91.36	2,573	8.28	110	0.35	31,060	100.00
	0-1	3516913	30,808	99.19	252	0.81			31,060	100.00
	0-2	3595452	27,574	88.78	3,466	11.16	20	0.06	31,060	100.00
F	0-1	3516923	29,905	98.72	387	1.28			30,292	100.00
	0-3	3595453	22,299	73.61	7,667	25.31	326	1.08	30,292	100.00
	0-1	3516627	29,836	98.49	456	1.51			30,292	100.00
	0-2	3595447	26,727	88.23	3,524	11.63	41	0.14	30,292	100.00
	0-1	3516628	30,115	99.42	177	0.58			30,292	100.00
	0-2	3595454	28,331	93.53	1,940	6.40	21	0.07	30,292	100.00
	0-1	3516333	29,616	97.77	676	2.23			30,292	100.00
	0-2	3595449	24,317	80.28	5,906	19.5	69	0.23	30,292	100.00
	0-1	3517013	29,718	98.11	574	1.89			30,292	100.00
	0-2	3595450	28,500	94.08	1,781	5.88	11	0.04	30,292	100.00
	0-1	3516616	29,900	98.71	392	1.29			30,292	100.00
	0-2	3595451	27,874	92.02	2,339	7.72	79	0.26	30,292	100.00
	0-1	3516327	29,682	97.99	610	2.01			30,292	100.00
	0-2	3595455	26,200	86.49	3,905	12.89	187	0.62	30,292	100.00

Note. Analysis was conducted with a statewide population.

Note. Bold-faced item indicates a ECR item.

Table 4.43 The 2008 MSA-Mathematics Score Difference between Rater 1 and Rater 2: Grade 7

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	100000043334	31,557	99.22	247	0.78			31,804	100.00
	0-2	3595363	28,773	90.47	2,933	9.22	98	0.31	31,804	100.00
	0-1	100000043348	31,128	97.87	676	2.13			31,804	100.00
	0-3	3595364	25,464	80.07	6,049	19.02	291	0.91	31,804	100.00
	0-1	3517646	31,159	97.97	645	2.03			31,804	100.00
	0-2	3595365	28,223	88.74	3,288	10.34	293	0.92	31,804	100.00
	0-1	3517725	31,692	99.65	112	0.35			31,804	100.00
	0-2	3564022	30,084	94.59	1,690	5.31	30	0.09	31,804	100.00
	0-1	100000043347	31,584	99.31	220	0.69			31,804	100.00
	0-3	3595366	29,326	92.21	2,449	7.70	29	0.09	31,804	100.00
	0-1	3517673	30,909	97.19	895	2.81			31,804	100.00
	0-3	3564020	27,100	85.21	4,621	14.53	83	0.26	31,804	100.00
	0-1	3517878	30,994	97.45	810	2.55			31,804	100.00
	0-2	3595367	27,069	85.11	4,719	14.84	16	0.05	31,804	100.00
	F	0-1	100000043335	30,802	99.21	246	0.79			31,048
0-2		3595368	28,984	93.35	2,030	6.54	34	0.11	31,048	100.00
0-1		3487765	30,685	98.83	363	1.17			31,048	100.00
0-3		3595369	25,451	81.97	5,361	17.27	236	0.76	31,048	100.00
0-1		3517610	30,675	98.80	373	1.20			31,048	100.00
0-2		3595370	26,844	86.46	4,125	13.29	79	0.25	31,048	100.00
0-1		100000048821	28,922	93.15	2,126	6.85			31,048	100.00
0-2		3595371	27,324	88.01	3,707	11.94	17	0.05	31,048	100.00
0-1		3547487	30,827	99.29	221	0.71			31,048	100.00
0-3		3564031	28,739	92.56	2,289	7.37	20	0.06	31,048	100.00
0-1		3517648	30,615	98.61	433	1.39			31,048	100.00
0-3		3564027	27,935	89.97	2,918	9.40	195	0.63	31,048	100.00
0-1		3517708	30,855	99.38	193	0.62			31,048	100.00
0-2		3595372	28,263	91.03	2,741	8.83	44	0.14	31,048	100.00

Note. Analysis was conducted with a statewide population.

Note. Bold-faced item indicates an ECR item.

Table 4.44 The 2008 MSA-Mathematics Score Difference between Rater 1 and Rater 2: Grade 8

Form	Score Range	Item CID	Perfect		Adjacent		Discrepancy		Total	
			N	%	N	%	N	%	N	%
A	0-1	3514013	32,065	99.22	253	0.78			32,318	100.00
	0-2	3564107	28,376	87.80	3,904	12.08	38	0.12	32,318	100.00
	0-1	3514702	32,114	99.37	204	0.63			32,318	100.00
	0-3	3564108	28,453	88.04	3,725	11.53	140	0.43	32,318	100.00
	0-1	3514267	31,898	98.70	420	1.30			32,318	100.00
	0-2	3564110	27,746	85.85	4,443	13.75	129	0.40	32,318	100.00
	0-1	3514117	31,820	98.46	498	1.54			32,318	100.00
	0-2	3564111	27,454	84.95	4,755	14.71	109	0.34	32,318	100.00
	0-1	3514607	32,131	99.42	187	0.58			32,318	100.00
	0-3	3564112	28,913	89.46	3,182	9.85	223	0.69	32,318	100.00
	0-1	3514118	32,216	99.68	102	0.32			32,318	100.00
	0-2	3564113	30,306	93.77	2,007	6.21	5	0.02	32,318	100.00
	0-1	100000043313	31,629	97.87	689	2.13			32,318	100.00
	0-3	3595405	27,484	85.04	4,466	13.82	368	1.14	32,318	100.00
	0-1	3514669	32,042	99.15	276	0.85			32,318	100.00
0-2	3564114	29,831	92.3	2,414	7.47	73	0.23	32,318	100.00	
F	0-1	3514013	31,477	99.17	265	0.83			31,742	100.00
	0-2	3564107	28,662	90.30	3,047	9.60	33	0.10	31,742	100.00
	0-1	3514283	31,573	99.47	169	0.53			31,742	100.00
	0-3	3564116	29,387	92.58	2,294	7.23	61	0.19	31,742	100.00
	0-1	3514217	29,676	93.49	2,066	6.51			31,742	100.00
	0-2	3595406	26,554	83.66	5,183	16.33	5	0.02	31,742	100.00
	0-1	3514117	31,199	98.29	543	1.71			31,742	100.00
	0-2	3564111	27,344	86.14	4,312	13.58	86	0.27	31,742	100.00
	0-1	3514607	31,571	99.46	171	0.54			31,742	100.00
	0-3	3564112	28,724	90.49	2,862	9.02	156	0.49	31,742	100.00
	0-1	3514266	31,512	99.28	230	0.72			31,742	100.00
	0-2	3564120	27,560	86.83	4,141	13.05	41	0.13	31,742	100.00
	0-1	100000043313	30,985	97.62	757	2.38			31,742	100.00
	0-3	3595405	27,378	86.25	4,099	12.91	265	0.83	31,742	100.00
	0-1	3514709	31,431	99.02	311	0.98			31,742	100.00
0-2	3595408	29,276	92.23	2,407	7.58	59	0.19	31,742	100.00	

Note. Analysis was conducted with a statewide population.

Note. Bold-faced item indicates an ECR item.