

## **4. THE 2007 MSA-MATH STATISTICAL SUMMARY**

---

**Table 4.1 The 2007 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	64	29,897	49.47	12.31	0.94	3.12
	F	64	29,858	49.63	11.77	0.93	3.10
4	A	64	30,402	47.21	13.21	0.94	3.26
	F	64	30,103	46.78	13.71	0.94	3.32
5	A	65	31,083	46.26	14.21	0.94	3.45
	F*	63	30,875	43.63	13.43	0.93	3.44
6	A	62	31,558	41.64	15.08	0.95	3.47
	F	62	31,258	41.56	14.24	0.94	3.46
7	A	62	32,264	33.31	16.37	0.96	3.36
	F	62	32,000	36.30	15.82	0.95	3.37
8	A	62	32,836	33.80	16.41	0.95	3.54
	F	62	32,480	34.34	16.53	0.95	3.58

*Note.* Grade 5 Form F excluded one of BCR items (both Step A and Step B) from the operational form.

*Note.* Analyses were conducted with a whole population.

**Table 4.2 The 2007 MSA-Math Scale Score Descriptive Statistics: Grades 3 through 8**

Grade	Form	N	M	SD	P10	Q1	Mdn	Q3	P90	IQR	SEM at Cut-Points	
											Prof.	Adv.
3	A	29,897	411.1	43.5	357	383	413	440	468	57	9	12
	F	29,858	412.5	42.2	360	386	414	442	465	56	9	13
	Overall	59,755	411.8	42.9	357	383	413	440	465	57	N/A	N/A
4	A	30,402	419.9	42.7	366	390	419	450	475	60	9	11
	F	30,103	418.0	42.4	364	388	418	447	476	59	9	10
	Overall	60,505	419.0	42.5	366	390	418	447	475	57	N/A	N/A
5	A	31,083	421.7	39.0	372	395	420	448	470	53	8	10
	F	30,875	422.7	37.3	376	395	421	446	470	51	9	10
	Overall	61,958	422.2	38.2	374	395	421	448	470	53	N/A	N/A
6	A	31,558	419.0	37.9	370	392	418	444	468	52	8	9
	F	31,258	417.8	36.2	373	393	416	442	465	49	8	9
	Overall	62,816	418.4	37.1	372	392	416	444	468	52	N/A	N/A
7	A	32,264	410.3	41.3	361	378	407	440	467	62	8	9
	F	32,000	410.8	41.1	359	379	409	439	465	60	8	9
	Overall	64,264	410.5	41.20	359	379	407	440	467	61	N/A	N/A
8	A	32,836	417.7	38.8	372	388	412	445	471	57	8	8
	F	32,480	417.9	38.0	373	391	414	442	470	51	8	8
	Overall	65,316	417.8	38.4	372	389	414	442	471	53	N/A	N/A

Note. Analyses were conducted with a whole population.

**Table 4.3 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 3**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	29,897	1.00				
2. Geometry and Measurement	29,897	0.72	1.00			
3. Statistics and Probability	29,897	0.71	0.72	1.00		
4. Numbers and Computation	29,897	0.74	0.75	0.75	1.00	
5. Process	29,897	0.68	0.68	0.67	0.71	1.00
<b>Form F</b>						
1. Algebra	29,858	1.00				
2. Geometry and Measurement	29,858	0.69	1.00			
3. Statistics and Probability	29,858	0.71	0.66	1.00		
4. Numbers and Computation	29,858	0.74	0.73	0.73	1.00	
5. Process	29,858	0.64	0.67	0.64	0.70	1.00

*Note.* Analyses were conducted with a whole population.

**Table 4.4 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 4**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	30,402	1.00				
2. Geometry and Measurement	30,402	0.70	1.00			
3. Statistics and Probability	30,402	0.74	0.72	1.00		
4. Numbers and Computation	30,402	0.72	0.70	0.74	1.00	
5. Process	30,402	0.71	0.70	0.74	0.70	1.00
<b>Form F</b>						
1. Algebra	30,103	1.00				
2. Geometry and Measurement	30,103	0.70	1.00			
3. Statistics and Probability	30,103	0.75	0.74	1.00		
4. Numbers and Computation	30,103	0.74	0.71	0.74	1.00	
5. Process	30,103	0.72	0.71	0.76	0.71	1.00

*Note.* Analyses were conducted with a whole population.

**Table 4.5 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 5**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	31,083	1.00				
2. Geometry and Measurement	31,083	0.69	1.00			
3. Statistics and Probability	31,083	0.74	0.70	1.00		
4. Numbers and Computation	31,083	0.74	0.74	0.74	1.00	
5. Process	31,083	0.74	0.76	0.75	0.76	1.00
<b>Form F</b>						
1. Algebra	30,875	1.00				
2. Geometry and Measurement	30,875	0.68	1.00			
3. Statistics and Probability	30,875	0.71	0.70	1.00		
4. Numbers and Computation	30,875	0.72	0.72	0.72	1.00	
5. Process	30,875	0.70	0.77	0.71	0.74	1.00

Note. Analyses were conducted with a whole population.

**Table 4.6 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 6**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	31,558	1.00				
2. Geometry and Measurement	31,558	0.74	1.00			
3. Statistics and Probability	31,558	0.75	0.72	1.00		
4. Numbers and Computation	31,558	0.78	0.74	0.74	1.00	
5. Process	31,558	0.80	0.77	0.77	0.78	1.00
<b>Form F</b>						
1. Algebra	31,258	1.00				
2. Geometry and Measurement	31,258	0.69	1.00			
3. Statistics and Probability	31,258	0.73	0.68	1.00		
4. Numbers and Computation	31,258	0.75	0.70	0.72	1.00	
5. Process	31,258	0.77	0.75	0.76	0.77	1.00

Note. Analyses were conducted with a whole population.

**Table 4.7 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 7**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	32,264	1.00				
2. Geometry and Measurement	32,264	0.78	1.00			
3. Statistics and Probability	32,264	0.79	0.77	1.00		
4. Numbers and Computation	32,264	0.82	0.79	0.77	1.00	
5. Process	32,264	0.78	0.79	0.79	0.75	1.00
<b>Form F</b>						
1. Algebra	32,000	1.00				
2. Geometry and Measurement	32,000	0.78	1.00			
3. Statistics and Probability	32,000	0.78	0.76	1.00		
4. Numbers and Computation	32,000	0.79	0.77	0.76	1.00	
5. Process	32,000	0.78	0.79	0.81	0.75	1.00

*Note.* Analyses were conducted with a whole population.

**Table 4.8 The 2007 MSA-Math Strand (Cluster) Correlations: Grade 8**

Form	N	1	2	3	4	5
<b>Form A</b>						
1. Algebra	32,836	1.00				
2. Geometry and Measurement	32,836	0.75	1.00			
3. Statistics and Probability	32,836	0.78	0.73	1.00		
4. Numbers and Computation	32,836	0.78	0.73	0.75	1.00	
5. Process	32,836	0.85	0.79	0.81	0.77	1.00
<b>Form F</b>						
1. Algebra	32,480	1.00				
2. Geometry and Measurement	32,480	0.73	1.00			
3. Statistics and Probability	32,480	0.77	0.69	1.00		
4. Numbers and Computation	32,480	0.79	0.71	0.76	1.00	
5. Process	32,480	0.83	0.76	0.79	0.76	1.00

*Note.* Analyses were conducted with a whole population.

**Table 4.9 The 2007 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	0.91
F	<i>B : PA</i>	0.94	0.03	0.04	0.91
	<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 2007 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	0.03	0.90

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

**Table 4.11 The 2007 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	0.03	0.04	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	0.91
	<i>BP : A</i>	0.94	0.03	0.02	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 2007 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	0.91
	<i>BP : A</i>	0.95	0.03	0.02	0.93
F	<i>B : PA</i>	0.93	0.03	0.04	0.90
	<i>BP : A</i>	0.94	0.03	0.02	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 2007 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>	0.96	0.02	0.02	0.95
F	<i>B : PA</i>	0.94	0.03	0.03	0.91
	<i>BP : A</i>	0.96	0.02	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 2007 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	0.03	0.90
	<i>BP : A</i>	0.95	0.02	0.02	0.93
F	<i>B : PA</i>	0.93	0.03	0.04	0.90
	<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 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 3 Form A**

Form A				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	240 <sup>a</sup>	47	240 <sup>a</sup>	240 <sup>a</sup>
1	240 <sup>a</sup>	33	240 <sup>a</sup>	240 <sup>a</sup>
2	240 <sup>a</sup>	24	240 <sup>a</sup>	247
3	240 <sup>a</sup>	20	240 <sup>a</sup>	258
4	249	18	240 <sup>a</sup>	267
5	258	16	242	274
6	265	15	250	280
7	272	14	258	286
8	277	13	264	290
9	283	13	270	296
10	287	12	275	299
11	292	12	280	304
12	296	12	284	308
13	300	11	289	311
14	304	11	293	315
15	308	11	297	319
16	311	11	300	322
17	314	10	304	324
18	318	10	308	328
19	321	10	311	331
20	324	10	314	334
21	327	10	317	337
22	330	10	320	340
23	332	10	322	342
24	335	10	325	345
25	338	9	329	347
26	341	9	332	350
27	343	9	334	352
28	346	9	337	355
29	349	9	340	358
30	351	9	342	360
31	354	9	345	363
32	357	9	348	366
33	359	9	350	368
34	362	9	353	371
35	364	9	355	373
36	367	9	358	376
37	369	9	360	378
38	372	9	363	381
39	375	9	366	384
40	377	9	368	386
41	380	9	371	389
42	383	9	374	392
43	385	9	376	394
44	388	10	378	398
45	391	10	381	401

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	394	10	384	404
47	397	10	387	407
48	400	10	390	410
49	403	10	393	413
50	406	10	396	416
51	409	10	399	419
52	413	10	403	423
53	416	11	405	427
54	420	11	409	431
55	423	11	412	434
56	427	11	416	438
57	431	12	419	443
58	435	12	423	447
59	440	12	428	452
60	445	13	432	458
61	450	13	437	463
62	455	14	441	469
63	461	14	447	475
64	468	15	453	483
65	475	16	459	491
66	483	17	466	500
67	493	19	474	512
68	505	21	484	526
69	521	25	496	546
70	547	34	513	581
71	571	47	524	618

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.16 The 2007 Total MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 3 Form F**

Form F				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	240 <sup>a</sup>	47	240 <sup>a</sup>	240 <sup>a</sup>
1	240 <sup>a</sup>	34	240 <sup>a</sup>	240 <sup>a</sup>
2	240 <sup>a</sup>	24	240 <sup>a</sup>	246
3	240 <sup>a</sup>	20	240 <sup>a</sup>	257
4	248	18	240 <sup>a</sup>	266
5	257	16	241	273
6	264	15	249	279
7	271	14	257	285
8	276	13	263	289
9	282	13	269	295
10	287	12	275	299
11	291	12	279	303
12	295	12	283	307
13	300	11	289	311
14	303	11	292	314
15	307	11	296	318
16	311	11	300	322
17	314	10	304	324
18	317	10	307	327
19	320	10	310	330
20	324	10	314	334
21	327	10	317	337
22	330	10	320	340
23	332	10	322	342
24	335	10	325	345
25	338	10	328	348
26	341	9	332	350
27	344	9	335	353
28	346	9	337	355
29	349	9	340	358
30	352	9	343	361
31	354	9	345	363
32	357	9	348	366
33	360	9	351	369
34	362	9	353	371
35	365	9	356	374
36	367	9	358	376
37	370	9	361	379
38	373	9	364	382
39	375	9	366	384
40	378	9	369	387
41	381	9	372	390
42	383	9	374	392
43	386	10	376	396
44	389	10	379	399
45	392	10	382	402

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	395	10	385	405
47	398	10	388	408
48	401	10	391	411
49	404	10	394	414
50	407	10	397	417
51	410	10	400	420
52	414	11	403	425
53	417	11	406	428
54	421	11	410	432
55	424	11	413	435
56	428	12	416	440
57	433	12	421	445
58	437	12	425	449
59	442	13	429	455
60	447	13	434	460
61	452	14	438	466
62	458	14	444	472
63	465	15	450	480
64	472	16	456	488
65	480	17	463	497
66	490	19	471	509
67	502	21	481	523
68	517	23	494	540
69	536	28	508	564
70	566	36	530	602
71	593	49	544	642

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.17 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form A**

Form A					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	240	49	240 <sup>a</sup>	289
AL	1	247	36	240 <sup>a</sup>	283
AL	2	277	28	249	305
AL	3	299	25	274	324
AL	4	317	24	293	341
AL	5	334	23	311	357
AL	6	349	23	326	372
AL	7	365	23	342	388
AL	8	381	23	358	404
AL	9	398	24	374	422
AL	10	417	26	391	443
AL	11	439	29	410	468
AL	12	472	37	435	509
AL	13	499	49	450	548
GM	0	240	48	240 <sup>a</sup>	288
GM	1	252	35	240 <sup>a</sup>	287
GM	2	280	27	253	307
GM	3	298	23	275	321
GM	4	313	21	292	334
GM	5	326	20	306	346
GM	6	338	19	319	357
GM	7	349	19	330	368
GM	8	361	19	342	380
GM	9	372	20	352	392
GM	10	384	20	364	404
GM	11	397	21	376	418
GM	12	412	23	389	435
GM	13	431	26	405	457
GM	14	458	35	423	493
GM	15	484	48	436	532
SP	0	240	49	240 <sup>a</sup>	289
SP	1	245	36	240 <sup>a</sup>	281
SP	2	274	27	247	301
SP	3	293	24	269	317
SP	4	309	22	287	331
SP	5	322	21	301	343
SP	6	335	20	315	355
SP	7	347	20	327	367
SP	8	359	20	339	379
SP	9	372	21	351	393
SP	10	385	22	363	407
SP	11	401	23	378	424
SP	12	420	27	393	447
SP	13	448	35	413	483
SP	14	473	48	425	521
NC	0	240	48	240 <sup>a</sup>	288
NC	1	262	35	240 <sup>a</sup>	297
NC	2	290	26	264	316

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	3	308	23	285	331
NC	4	322	21	301	343
NC	5	335	20	315	355
NC	6	346	19	327	365
NC	7	357	19	338	376
NC	8	368	19	349	387
NC	9	379	19	360	398
NC	10	391	20	371	411
NC	11	405	21	384	426
NC	12	420	23	397	443
NC	13	439	27	412	466
NC	14	468	36	432	504
NC	15	494	48	446	542
PR	0	281	48	240 <sup>a</sup>	329
PR	1	306	35	271	341
PR	2	334	27	307	361
PR	3	354	24	330	378
PR	4	370	22	348	392
PR	5	384	22	362	406
PR	6	399	22	377	421
PR	7	413	22	391	435
PR	8	428	22	406	450
PR	9	443	23	420	466
PR	10	459	24	435	483
PR	11	477	25	452	502
PR	12	499	28	471	527
PR	13	529	36	493	565
PR	14	555	49	506	604

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 3 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	240	50	240 <sup>a</sup>	290
AL	1	249	37	240 <sup>a</sup>	286
AL	2	281	29	252	310
AL	3	303	25	278	328
AL	4	321	23	298	344
AL	5	336	22	314	358
AL	6	350	21	329	371
AL	7	363	21	342	384
AL	8	376	21	355	397
AL	9	390	22	368	412
AL	10	407	24	383	431
AL	11	427	28	399	455
AL	12	457	37	420	494
AL	13	484	49	435	533
GM	0	249	48	240 <sup>a</sup>	297
GM	1	274	35	240 <sup>a</sup>	309
GM	2	301	26	275	327
GM	3	320	23	297	343
GM	4	334	21	313	355
GM	5	347	20	327	367
GM	6	359	19	340	378
GM	7	370	19	351	389
GM	8	381	19	362	400
GM	9	392	19	373	411
GM	10	403	20	383	423
GM	11	415	21	394	436
GM	12	429	22	407	451
GM	13	447	26	421	473
GM	14	474	35	439	509
GM	15	498	48	450	546
SP	0	240	48	240 <sup>a</sup>	288
SP	1	240	35	240 <sup>a</sup>	275
SP	2	265	27	240 <sup>a</sup>	292
SP	3	284	24	260	308
SP	4	299	22	277	321
SP	5	313	21	292	334
SP	6	325	20	305	345
SP	7	338	20	318	358
SP	8	350	20	330	370
SP	9	362	21	341	383
SP	10	376	22	354	398
SP	11	391	24	367	415
SP	12	411	27	384	438
SP	13	439	36	403	475
SP	14	465	48	417	513
NC	0	240	48	240 <sup>a</sup>	288
NC	1	257	35	240 <sup>a</sup>	292
NC	2	285	27	258	312

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	3	303	23	280	326
NC	4	318	21	297	339
NC	5	332	20	312	352
NC	6	344	20	324	364
NC	7	356	20	336	376
NC	8	369	20	349	389
NC	9	381	20	361	401
NC	10	394	21	373	415
NC	11	409	22	387	431
NC	12	425	24	401	449
NC	13	445	27	418	472
NC	14	474	36	438	510
NC	15	500	48	452	548
PR	0	254	50	240 <sup>a</sup>	304
PR	1	282	38	244	320
PR	2	315	29	286	344
PR	3	338	26	312	364
PR	4	357	24	333	381
PR	5	374	23	351	397
PR	6	391	23	368	414
PR	7	408	24	384	432
PR	8	426	25	401	451
PR	9	445	26	419	471
PR	10	467	27	440	494
PR	11	491	29	462	520
PR	12	519	32	487	551
PR	13	556	39	517	595
PR	14	585	50	535	635

Note. <sup>a</sup>LOSS was set to 240.

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



**Table 4.19 The 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 4 Form A**

Raw Score	Scale Score (SS)	Form A		
		Standard Error (SEM)	SS – 1SEM	SS + 1SEM
0	240 <sup>a</sup>	47	240 <sup>a</sup>	247
1	240 <sup>a</sup>	34	240 <sup>a</sup>	257
2	247	24	240 <sup>a</sup>	271
3	262	20	242	282
4	273	18	255	291
5	281	16	265	297
6	288	15	273	303
7	295	14	281	309
8	300	13	287	313
9	305	13	292	318
10	310	12	298	322
11	314	12	302	326
12	318	11	307	329
13	322	11	311	333
14	326	11	315	337
15	329	11	318	340
16	332	10	322	342
17	336	10	326	346
18	339	10	329	349
19	342	10	332	352
20	344	10	334	354
21	347	10	337	357
22	350	9	341	359
23	353	9	344	362
24	355	9	346	364
25	358	9	349	367
26	360	9	351	369
27	363	9	354	372
28	366	9	357	375
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	397	9	388	406
42	400	9	391	409
43	402	9	393	411
44	405	9	396	414
45	408	9	399	417

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	410	9	401	419
47	413	10	403	423
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	431	10	421	441
54	435	11	424	446
55	438	11	427	449
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	488	16	472	504
66	496	17	479	513
67	506	19	487	525
68	518	21	497	539
69	533	25	508	558
70	559	34	525	593
71	583	47	536	630

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.20 The 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 4 Form F**

Raw Score	Scale Score (SS)	Form F		
		Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	240 <sup>a</sup>	47	240 <sup>a</sup>	247
1	240 <sup>a</sup>	34	240 <sup>a</sup>	258
2	248	24	240 <sup>a</sup>	272
3	263	20	243	283
4	273	18	255	291
5	282	16	266	298
6	289	15	274	304
7	296	14	282	310
8	301	13	288	314
9	306	13	293	319
10	311	12	299	323
11	316	12	304	328
12	320	11	309	331
13	323	11	312	334
14	327	11	316	338
15	331	11	320	342
16	334	10	324	344
17	337	10	327	347
18	340	10	330	350
19	343	10	333	353
20	346	10	336	356
21	349	10	339	359
22	352	9	343	361
23	354	9	345	363
24	357	9	348	366
25	359	9	350	368
26	362	9	353	371
27	364	9	355	373
28	367	9	358	376
29	369	9	360	378
30	372	9	363	381
31	374	9	365	383
32	377	9	368	386
33	379	9	370	388
34	381	9	372	390
35	384	9	375	393
36	386	9	377	395
37	388	9	379	397
38	391	9	382	400
39	393	9	384	402
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

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	410	9	401	419
47	413	9	404	422
48	415	9	406	424
49	418	9	409	427
50	421	10	411	431
51	424	10	414	434
52	426	10	416	436
53	430	10	420	440
54	433	10	423	443
55	436	10	426	446
56	439	11	428	450
57	443	11	432	454
58	447	11	436	458
59	451	12	439	463
60	455	12	443	467
61	459	13	446	472
62	464	13	451	477
63	470	14	456	484
64	476	14	462	490
65	483	15	468	498
66	491	17	474	508
67	500	18	482	518
68	511	21	490	532
69	527	25	502	552
70	552	34	518	586
71	577	47	530	624

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.21 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form A**

Form A					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	258	48	240 <sup>a</sup>	306
AL	1	283	35	248	318
AL	2	311	27	284	338
AL	3	329	23	306	352
AL	4	344	22	322	366
AL	5	358	21	337	379
AL	6	370	20	350	390
AL	7	383	20	363	403
AL	8	396	21	375	417
AL	9	410	22	388	432
AL	10	425	23	402	448
AL	11	442	25	417	467
AL	12	465	29	436	494
AL	13	497	38	459	535
AL	14	525	50	475	575
GM	0	254	49	240 <sup>a</sup>	303
GM	1	281	37	244	318
GM	2	311	28	283	339
GM	3	331	24	307	355
GM	4	347	22	325	369
GM	5	360	20	340	380
GM	6	372	20	352	392
GM	7	384	19	365	403
GM	8	395	20	375	415
GM	9	407	20	387	427
GM	10	420	21	399	441
GM	11	434	23	411	457
GM	12	452	26	426	478
GM	13	479	35	444	514
GM	14	504	48	456	552
SP	0	255	48	240 <sup>a</sup>	303
SP	1	279	35	244	314
SP	2	306	26	280	332
SP	3	323	22	301	345
SP	4	337	20	317	357
SP	5	349	19	330	368
SP	6	360	19	341	379
SP	7	370	18	352	388
SP	8	381	18	363	399
SP	9	391	19	372	410
SP	10	402	19	383	421
SP	11	414	20	394	434
SP	12	428	22	406	450
SP	13	445	26	419	471
SP	14	472	35	437	507
SP	15	497	48	449	545
NC	0	250	48	240 <sup>a</sup>	298
NC	1	275	35	240	310

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	2	303	26	277	329
NC	3	321	23	298	344
NC	4	335	21	314	356
NC	5	348	20	328	368
NC	6	360	19	341	379
NC	7	371	19	352	390
NC	8	383	20	363	403
NC	9	395	20	375	415
NC	10	408	21	387	429
NC	11	422	23	399	445
NC	12	441	27	414	468
NC	13	469	35	434	504
NC	14	494	48	446	542
PR	0	260	51	240 <sup>a</sup>	311
PR	1	290	39	251	329
PR	2	324	30	294	354
PR	3	348	26	322	374
PR	4	367	24	343	391
PR	5	383	23	360	406
PR	6	399	22	377	421
PR	7	414	23	391	437
PR	8	430	23	407	453
PR	9	447	24	423	471
PR	10	464	24	440	488
PR	11	483	26	457	509
PR	12	505	28	477	533
PR	13	536	36	500	572
PR	14	562	49	513	611

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 4 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	259	48	240 <sup>a</sup>	307
AL	1	284	35	249	319
AL	2	311	26	285	337
AL	3	329	22	307	351
AL	4	343	20	323	363
AL	5	355	19	336	374
AL	6	366	19	347	385
AL	7	376	19	357	395
AL	8	387	19	368	406
AL	9	398	19	379	417
AL	10	410	21	389	431
AL	11	424	23	401	447
AL	12	442	26	416	468
AL	13	469	35	434	504
AL	14	495	48	447	543
GM	0	252	49	240 <sup>a</sup>	301
GM	1	279	37	242	316
GM	2	310	28	282	338
GM	3	331	24	307	355
GM	4	347	22	325	369
GM	5	362	21	341	383
GM	6	374	20	354	394
GM	7	386	20	366	406
GM	8	398	20	378	418
GM	9	410	20	390	430
GM	10	423	21	402	444
GM	11	437	23	414	460
GM	12	455	26	429	481
GM	13	482	35	447	517
GM	14	507	48	459	555
SP	0	252	48	240 <sup>a</sup>	300
SP	1	278	36	242	314
SP	2	306	27	279	333
SP	3	325	23	302	348
SP	4	340	21	319	361
SP	5	353	20	333	373
SP	6	365	19	346	384
SP	7	376	19	357	395
SP	8	387	19	368	406
SP	9	398	19	379	417
SP	10	410	20	390	430
SP	11	422	21	401	443
SP	12	436	22	414	458
SP	13	454	26	428	480
SP	14	480	35	445	515
SP	15	505	48	457	553
NC	0	247	48	240 <sup>a</sup>	295
NC	1	272	35	240 <sup>a</sup>	307

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	2	300	27	273	327
NC	3	319	23	296	342
NC	4	334	21	313	355
NC	5	347	20	327	367
NC	6	358	19	339	377
NC	7	370	19	351	389
NC	8	381	19	362	400
NC	9	392	20	372	412
NC	10	405	21	384	426
NC	11	419	22	397	441
NC	12	436	26	410	462
NC	13	463	35	428	498
NC	14	488	48	440	536
PR	0	276	50	240 <sup>a</sup>	326
PR	1	304	38	266	342
PR	2	336	29	307	365
PR	3	357	25	332	382
PR	4	374	23	351	397
PR	5	389	21	368	410
PR	6	402	21	381	423
PR	7	416	21	395	437
PR	8	430	22	408	452
PR	9	444	22	422	466
PR	10	461	24	437	485
PR	11	479	25	454	504
PR	12	501	28	473	529
PR	13	531	37	494	568
PR	14	558	49	509	607

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 5 Form A**

Form A				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	240 <sup>a</sup>	44	240 <sup>a</sup>	259
1	240 <sup>a</sup>	32	240 <sup>a</sup>	270
2	261	23	240 <sup>a</sup>	284
3	275	19	256	294
4	286	17	269	303
5	294	15	279	309
6	301	14	287	315
7	307	13	294	320
8	313	13	300	326
9	318	12	306	330
10	322	12	310	334
11	327	11	316	338
12	331	11	320	342
13	334	11	323	345
14	338	10	328	348
15	341	10	331	351
16	344	10	334	354
17	347	10	337	357
18	350	10	340	360
19	353	9	344	362
20	356	9	347	365
21	359	9	350	368
22	362	9	353	371
23	364	9	355	373
24	367	9	358	376
25	369	9	360	378
26	372	9	363	381
27	374	9	365	383
28	377	9	368	386
29	379	9	370	388
30	381	8	373	389
31	384	8	376	392
32	386	8	378	394
33	388	8	380	396
34	390	8	382	398
35	393	8	385	401
36	395	8	387	403
37	397	8	389	405
38	400	8	392	408
39	402	8	394	410
40	404	8	396	412
41	406	8	398	414
42	408	8	400	416
43	411	8	403	419
44	413	8	405	421
45	415	8	407	423

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	418	8	410	426
47	420	8	412	428
48	422	9	413	431
49	425	9	416	434
50	427	9	418	436
51	430	9	421	439
52	432	9	423	441
53	435	9	426	444
54	437	9	428	446
55	440	9	431	449
56	443	9	434	452
57	445	9	436	454
58	448	10	438	458
59	452	10	442	462
60	455	10	445	465
61	458	10	448	468
62	462	11	451	473
63	466	11	455	477
64	470	11	459	481
65	474	12	462	486
66	479	13	466	492
67	485	13	472	498
68	491	14	477	505
69	498	15	483	513
70	506	17	489	523
71	517	19	498	536
72	531	23	508	554
73	554	32	522	586
74	576	44	532	620

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.24 The 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 5 Form F**

Form F				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	240 <sup>a</sup>	44	240 <sup>a</sup>	267
1	246	32	240 <sup>a</sup>	278
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	314	13	301	327
8	320	13	307	333
9	324	12	312	336
10	329	12	317	341
11	333	11	322	344
12	337	11	326	348
13	341	10	331	351
14	344	10	334	354
15	347	10	337	357
16	351	10	341	361
17	354	10	344	364
18	357	10	347	367
19	360	9	351	369
20	363	9	354	372
21	365	9	356	374
22	368	9	359	377
23	371	9	362	380
24	373	9	364	382
25	376	9	367	385
26	378	9	369	387
27	381	9	372	390
28	383	9	374	392
29	386	9	377	395
30	388	9	379	397
31	390	9	381	399
32	393	9	384	402
33	395	8	387	403
34	397	8	389	405
35	400	8	392	408
36	402	8	394	410
37	404	8	396	412
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	9	409	427
44	421	9	412	430
45	423	9	414	432

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	426	9	417	435
47	428	9	419	437
48	430	9	421	439
49	433	9	424	442
50	436	9	427	445
51	438	9	429	447
52	441	9	432	450
53	444	9	435	453
54	446	9	437	455
55	449	10	439	459
56	452	10	442	462
57	456	10	446	466
58	459	10	449	469
59	462	11	451	473
60	466	11	455	477
61	470	11	459	481
62	474	12	462	486
63	479	12	467	491
64	484	13	471	497
65	490	14	476	504
66	497	15	482	512
67	505	17	488	522
68	515	19	496	534
69	529	23	506	552
70	552	31	521	583
71	574	44	530	618

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.25 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form A**

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	264	45	240 <sup>a</sup>	309
AL	1	287	32	255	319
AL	2	311	24	287	335
AL	3	327	21	306	348
AL	4	340	19	321	359
AL	5	351	18	333	369
AL	6	361	17	344	378
AL	7	371	17	354	388
AL	8	380	17	363	397
AL	9	390	17	373	407
AL	10	400	18	382	418
AL	11	411	19	392	430
AL	12	424	21	403	445
AL	13	441	24	417	465
AL	14	465	32	433	497
AL	15	489	45	444	534
GM	0	294	46	248	340
GM	1	319	34	285	353
GM	2	347	26	321	373
GM	3	365	22	343	387
GM	4	380	20	360	400
GM	5	392	19	373	411
GM	6	404	18	386	422
GM	7	415	18	397	433
GM	8	425	18	407	443
GM	9	436	19	417	455
GM	10	448	19	429	467
GM	11	461	21	440	482
GM	12	478	24	454	502
GM	13	503	33	470	536
GM	14	526	45	481	571
SP	0	252	47	240 <sup>a</sup>	299
SP	1	279	35	244	314
SP	2	309	27	282	336
SP	3	329	23	306	352
SP	4	345	21	324	366
SP	5	358	20	338	378
SP	6	371	19	352	390
SP	7	383	19	364	402
SP	8	396	20	376	416
SP	9	409	21	388	430
SP	10	424	22	402	446
SP	11	442	25	417	467
SP	12	469	33	436	502
SP	13	493	45	448	538
NC	0	273	45	240 <sup>a</sup>	318
NC	1	296	33	263	329
NC	2	322	25	297	347

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	3	339	21	318	360
NC	4	352	19	333	371
NC	5	364	18	346	382
NC	6	374	18	356	392
NC	7	384	18	366	402
NC	8	394	18	376	412
NC	9	404	18	386	422
NC	10	415	18	397	433
NC	11	427	19	408	446
NC	12	440	21	419	461
NC	13	457	24	433	481
NC	14	482	33	449	515
NC	15	505	45	460	550
PR	0	270	49	240 <sup>a</sup>	319
PR	1	299	38	261	337
PR	2	335	30	305	365
PR	3	360	25	335	385
PR	4	378	22	356	400
PR	5	392	20	372	412
PR	6	404	18	386	422
PR	7	414	17	397	431
PR	8	423	17	406	440
PR	9	432	17	415	449
PR	10	441	17	424	458
PR	11	451	17	434	468
PR	12	461	18	443	479
PR	13	473	20	453	493
PR	14	487	22	465	509
PR	15	505	25	480	530
PR	16	532	33	499	565
PR	17	556	45	511	601

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 5 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	263	45	240 <sup>a</sup>	308
AL	1	286	32	254	318
AL	2	311	24	287	335
AL	3	328	21	307	349
AL	4	341	19	322	360
AL	5	352	18	334	370
AL	6	362	17	345	379
AL	7	372	17	355	389
AL	8	381	17	364	398
AL	9	391	17	374	408
AL	10	401	18	383	419
AL	11	412	19	393	431
AL	12	425	21	404	446
AL	13	441	24	417	465
AL	14	466	32	434	498
AL	15	489	45	444	534
GM	0	291	46	245	337
GM	1	316	34	282	350
GM	2	344	26	318	370
GM	3	362	23	339	385
GM	4	378	21	357	399
GM	5	391	20	371	411
GM	6	403	19	384	422
GM	7	414	18	396	432
GM	8	425	18	407	443
GM	9	436	19	417	455
GM	10	448	20	428	468
GM	11	462	21	441	483
GM	12	479	25	454	504
GM	13	504	33	471	537
GM	14	527	45	482	572
SP	0	276	45	240 <sup>a</sup>	321
SP	1	300	33	267	333
SP	2	326	25	301	351
SP	3	344	22	322	366
SP	4	358	20	338	378
SP	5	371	20	351	391
SP	6	384	20	364	404
SP	7	396	20	376	416
SP	8	410	21	389	431
SP	9	425	22	403	447
SP	10	443	25	418	468
SP	11	470	33	437	503
SP	12	494	45	449	539
NC	0	287	45	242	332
NC	1	310	32	278	342
NC	2	334	24	310	358
NC	3	350	21	329	371

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	4	363	19	344	382
NC	5	374	18	356	392
NC	6	384	17	367	401
NC	7	393	17	376	410
NC	8	403	17	386	420
NC	9	412	17	395	429
NC	10	422	18	404	440
NC	11	433	19	414	452
NC	12	446	21	425	467
NC	13	462	24	438	486
NC	14	487	32	455	519
NC	15	510	45	465	555
PR	0	270	50	240 <sup>a</sup>	320
PR	1	301	39	262	340
PR	2	342	32	310	374
PR	3	372	28	344	400
PR	4	393	23	370	416
PR	5	408	20	388	428
PR	6	420	18	402	438
PR	7	430	17	413	447
PR	8	440	17	423	457
PR	9	449	17	432	466
PR	10	460	18	442	478
PR	11	471	19	452	490
PR	12	484	21	463	505
PR	13	501	25	476	526
PR	14	527	33	494	560
PR	15	551	45	506	596

Note. <sup>a</sup>LOSS 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 2007 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 (SEM)	SS – 1SEM	SS + 1SEM
0	244	42	240 <sup>a</sup>	286
1	265	30	240 <sup>a</sup>	295
2	286	22	264	308
3	299	18	281	317
4	308	16	292	324
5	316	14	302	330
6	322	13	309	335
7	327	12	315	339
8	332	12	320	344
9	337	11	326	348
10	341	11	330	352
11	344	10	334	354
12	348	10	338	358
13	351	10	341	361
14	354	9	345	363
15	357	9	348	366
16	360	9	351	369
17	362	9	353	371
18	365	9	356	374
19	368	9	359	377
20	370	8	362	378
21	372	8	364	380
22	375	8	367	383
23	377	8	369	385
24	379	8	371	387
25	381	8	373	389
26	384	8	376	392
27	386	8	378	394
28	388	8	380	396
29	390	8	382	398
30	392	8	384	400
31	394	8	386	402
32	396	8	388	404
33	398	8	390	406
34	400	8	392	408
35	402	8	394	410
36	404	8	396	412
37	406	8	398	414
38	408	8	400	416
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	423	8	415	431

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	425	8	417	433
47	427	8	419	435
48	429	8	421	437
49	432	8	424	440
50	434	8	426	442
51	437	9	428	446
52	439	9	430	448
53	442	9	433	451
54	444	9	435	453
55	447	9	438	456
56	450	10	440	460
57	453	10	443	463
58	457	10	447	467
59	460	10	450	470
60	464	11	453	475
61	468	11	457	479
62	473	12	461	485
63	478	12	466	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	563	42	521	605

*Note.* <sup>a</sup>LOSS was set to 240.

**Table 4.28 The 2007 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 (SEM)	SS – 1SEM	SS + 1SEM
0	240 <sup>a</sup>	42	240 <sup>a</sup>	281
1	260	30	240 <sup>a</sup>	290
2	282	22	260	304
3	295	18	277	313
4	304	16	288	320
5	312	14	298	326
6	318	13	305	331
7	324	12	312	336
8	329	12	317	341
9	333	11	322	344
10	337	11	326	348
11	341	10	331	351
12	344	10	334	354
13	348	10	338	358
14	351	10	341	361
15	354	9	345	363
16	357	9	348	366
17	360	9	351	369
18	362	9	353	371
19	365	9	356	374
20	368	9	359	377
21	370	9	361	379
22	373	8	365	381
23	375	8	367	383
24	377	8	369	385
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	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	408	8	400	416
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	423	8	415	431

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	425	8	417	433
47	427	8	419	435
48	429	8	421	437
49	432	8	424	440
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	457	10	447	467
59	461	10	451	471
60	465	11	454	476
61	469	11	458	480
62	473	12	461	485
63	478	13	465	491
64	484	13	471	497
65	490	14	476	504
66	498	16	482	514
67	508	18	490	526
68	521	22	499	543
69	543	30	513	573
70	564	42	522	606

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.29 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form A**

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	289	43	246	332
AL	1	311	31	280	342
AL	2	335	23	312	358
AL	3	351	20	331	371
AL	4	364	18	346	382
AL	5	375	17	358	392
AL	6	384	17	367	401
AL	7	394	17	377	411
AL	8	403	17	386	420
AL	9	413	17	396	430
AL	10	423	18	405	441
AL	11	435	20	415	455
AL	12	450	23	427	473
AL	13	474	31	443	505
AL	14	496	43	453	539
GM	0	306	43	263	349
GM	1	328	31	297	359
GM	2	352	23	329	375
GM	3	368	20	348	388
GM	4	380	18	362	398
GM	5	390	17	373	407
GM	6	400	17	383	417
GM	7	409	17	392	426
GM	8	419	17	402	436
GM	9	429	17	412	446
GM	10	439	18	421	457
GM	11	452	20	432	472
GM	12	467	23	444	490
GM	13	491	31	460	522
GM	14	513	43	470	556
SP	0	289	43	246	332
SP	1	312	32	280	344
SP	2	337	24	313	361
SP	3	354	21	333	375
SP	4	367	19	348	386
SP	5	379	18	361	397
SP	6	390	18	372	408
SP	7	401	18	383	419
SP	8	412	18	394	430
SP	9	424	19	405	443
SP	10	437	21	416	458
SP	11	453	24	429	477
SP	12	477	31	446	508
SP	13	500	43	457	543
NC	0	292	43	249	335
NC	1	315	31	284	346
NC	2	339	23	316	362
NC	3	355	20	335	375

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	4	367	19	348	386
NC	5	378	18	360	396
NC	6	388	17	371	405
NC	7	398	17	381	415
NC	8	408	17	391	425
NC	9	418	18	400	436
NC	10	429	19	410	448
NC	11	442	20	422	462
NC	12	458	24	434	482
NC	13	482	31	451	513
NC	14	505	43	462	548
PR	0	291	44	247	335
PR	1	314	32	282	346
PR	2	341	25	316	366
PR	3	358	22	336	380
PR	4	373	20	353	393
PR	5	385	19	366	404
PR	6	397	18	379	415
PR	7	408	18	390	426
PR	8	419	18	401	437
PR	9	430	18	412	448
PR	10	442	19	423	461
PR	11	454	20	434	474
PR	12	469	22	447	491
PR	13	487	25	462	512
PR	14	513	32	481	545
PR	15	537	44	493	581

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 6 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	281	43	240 <sup>a</sup>	324
AL	1	303	32	271	335
AL	2	328	24	304	352
AL	3	345	21	324	366
AL	4	358	19	339	377
AL	5	370	18	352	388
AL	6	381	18	363	399
AL	7	392	18	374	410
AL	8	403	18	385	421
AL	9	414	18	396	432
AL	10	426	19	407	445
AL	11	440	21	419	461
AL	12	457	24	433	481
AL	13	482	32	450	514
AL	14	505	44	461	549
GM	0	291	44	247	335
GM	1	315	32	283	347
GM	2	341	24	317	365
GM	3	358	21	337	379
GM	4	371	19	352	390
GM	5	383	18	365	401
GM	6	393	17	376	410
GM	7	403	17	386	420
GM	8	413	17	396	430
GM	9	423	18	405	441
GM	10	434	19	415	453
GM	11	447	20	427	467
GM	12	463	23	440	486
GM	13	487	31	456	518
GM	14	509	43	466	552
SP	0	283	43	240	326
SP	1	306	32	274	338
SP	2	330	24	306	354
SP	3	347	21	326	368
SP	4	360	19	341	379
SP	5	372	19	353	391
SP	6	383	18	365	401
SP	7	395	18	377	413
SP	8	406	19	387	425
SP	9	419	20	399	439
SP	10	433	21	412	454
SP	11	450	24	426	474
SP	12	476	32	444	508
SP	13	498	43	455	541
NC	0	300	43	257	343
NC	1	323	31	292	354
NC	2	347	23	324	370
NC	3	362	20	342	382

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	4	375	18	357	393
NC	5	386	18	368	404
NC	6	396	17	379	413
NC	7	406	17	389	423
NC	8	415	17	398	432
NC	9	425	17	408	442
NC	10	436	18	418	454
NC	11	448	20	428	468
NC	12	464	23	441	487
NC	13	488	31	457	519
NC	14	510	43	467	553
PR	0	293	44	249	337
PR	1	317	32	285	349
PR	2	343	25	318	368
PR	3	360	22	338	382
PR	4	375	20	355	395
PR	5	387	19	368	406
PR	6	399	18	381	417
PR	7	409	17	392	426
PR	8	419	17	402	436
PR	9	430	18	412	448
PR	10	441	18	423	459
PR	11	453	20	433	473
PR	12	467	22	445	489
PR	13	485	25	460	510
PR	14	512	33	479	545
PR	15	536	44	492	580

Note. <sup>a</sup>LOSS 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 2007 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 (SEM)	SS – 1SEM	SS + 1SEM
0	251	41	240 <sup>a</sup>	292
1	271	29	242	300
2	293	21	272	314
3	307	18	289	325
4	316	16	300	332
5	324	14	310	338
6	331	13	318	344
7	337	12	325	349
8	342	12	330	354
9	346	11	335	357
10	350	11	339	361
11	354	10	344	364
12	358	10	348	368
13	361	10	351	371
14	364	9	355	373
15	367	9	358	376
16	370	9	361	379
17	373	9	364	382
18	376	9	367	385
19	378	8	370	386
20	381	8	373	389
21	383	8	375	391
22	386	8	378	394
23	388	8	380	396
24	390	8	382	398
25	392	8	384	400
26	395	8	387	403
27	397	8	389	405
28	399	8	391	407
29	401	8	393	409
30	403	8	395	411
31	405	8	397	413
32	407	8	399	415
33	410	8	402	418
34	412	8	404	420
35	414	8	406	422
36	416	8	408	424
37	418	8	410	426
38	420	8	412	428
39	422	8	414	430
40	424	8	416	432
41	426	8	418	434
42	429	8	421	437
43	431	8	423	439
44	433	8	425	441
45	435	8	427	443

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	438	8	430	446
47	440	8	432	448
48	442	8	434	450
49	445	8	437	453
50	447	8	439	455
51	450	9	441	459
52	453	9	444	462
53	455	9	446	464
54	458	9	449	467
55	461	9	452	470
56	464	9	455	473
57	467	10	457	477
58	471	10	461	481
59	474	10	464	484
60	478	10	468	488
61	482	11	471	493
62	487	11	476	498
63	491	12	479	503
64	496	12	484	508
65	502	13	489	515
66	508	14	494	522
67	516	15	501	531
68	524	16	508	540
69	535	18	517	553
70	549	22	527	571
71	572	30	542	602
72	593	41	552	634

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.32 The 2007 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 (SEM)	SS – 1SEM	SS + 1SEM
0	247	40	240 <sup>a</sup>	287
1	267	29	240 <sup>a</sup>	296
2	288	21	267	309
3	301	17	284	318
4	310	15	295	325
5	317	14	303	331
6	324	13	311	337
7	329	12	317	341
8	334	11	323	345
9	338	11	327	349
10	342	10	332	352
11	346	10	336	356
12	349	10	339	359
13	353	9	344	362
14	356	9	347	365
15	359	9	350	368
16	362	9	353	371
17	364	9	355	373
18	367	9	358	376
19	370	9	361	379
20	372	8	364	380
21	375	8	367	383
22	377	8	369	385
23	379	8	371	387
24	382	8	374	390
25	384	8	376	392
26	386	8	378	394
27	389	8	381	397
28	391	8	383	399
29	393	8	385	401
30	396	8	388	404
31	398	8	390	406
32	400	8	392	408
33	402	8	394	410
34	404	8	396	412
35	407	8	399	415
36	409	8	401	417
37	411	8	403	419
38	413	8	405	421
39	416	8	408	424
40	418	8	410	426
41	420	8	412	428
42	422	8	414	430
43	425	8	417	433
44	427	8	419	435
45	429	8	421	437

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	432	8	424	440
47	434	8	426	442
48	437	8	429	445
49	439	8	431	447
50	442	9	433	451
51	444	9	435	453
52	447	9	438	456
53	450	9	441	459
54	453	9	444	462
55	456	9	447	465
56	459	9	450	468
57	462	10	452	472
58	465	10	455	475
59	469	10	459	479
60	473	10	463	483
61	477	11	466	488
62	481	11	470	492
63	486	12	474	498
64	491	12	479	503
65	497	13	484	510
66	503	14	489	517
67	511	15	496	526
68	521	17	504	538
69	533	20	513	553
70	549	24	525	573
71	575	32	543	607
72	599	43	556	642

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.33 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form A**

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	307	41	266	348
AL	1	328	30	298	358
AL	2	351	22	329	373
AL	3	365	19	346	384
AL	4	377	18	359	395
AL	5	387	17	370	404
AL	6	397	16	381	413
AL	7	407	16	391	423
AL	8	416	17	399	433
AL	9	427	17	410	444
AL	10	438	18	420	456
AL	11	451	20	431	471
AL	12	468	23	445	491
AL	13	492	31	461	523
AL	14	515	42	473	557
GM	0	320	41	279	361
GM	1	342	30	312	372
GM	2	365	23	342	388
GM	3	381	20	361	401
GM	4	394	18	376	412
GM	5	405	18	387	423
GM	6	416	17	399	433
GM	7	427	18	409	445
GM	8	438	18	420	456
GM	9	450	19	431	469
GM	10	463	20	443	483
GM	11	480	23	457	503
GM	12	505	31	474	536
GM	13	527	42	485	569
SP	0	298	41	257	339
SP	1	319	30	289	349
SP	2	343	23	320	366
SP	3	358	20	338	378
SP	4	371	18	353	389
SP	5	382	17	365	399
SP	6	392	17	375	409
SP	7	402	17	385	419
SP	8	412	17	395	429
SP	9	422	17	405	439
SP	10	433	18	415	451
SP	11	446	20	426	466
SP	12	461	23	438	484
SP	13	485	30	455	515
SP	14	506	41	465	547
NC	0	297	43	254	340
NC	1	320	32	288	352
NC	2	346	24	322	370
NC	3	364	20	344	384

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	4	377	18	359	395
NC	5	388	17	371	405
NC	6	398	17	381	415
NC	7	408	16	392	424
NC	8	417	16	401	433
NC	9	427	17	410	444
NC	10	437	18	419	455
NC	11	449	19	430	468
NC	12	464	22	442	486
NC	13	486	30	456	516
NC	14	507	41	466	548
PR	0	285	46	240 <sup>a</sup>	331
PR	1	314	36	278	350
PR	2	349	28	321	377
PR	3	373	24	349	397
PR	4	391	21	370	412
PR	5	405	20	385	425
PR	6	419	19	400	438
PR	7	431	18	413	449
PR	8	442	18	424	460
PR	9	454	18	436	472
PR	10	465	18	447	483
PR	11	477	18	459	495
PR	12	489	19	470	508
PR	13	502	20	482	522
PR	14	517	21	496	538
PR	15	535	24	511	559
PR	16	560	31	529	591
PR	17	583	42	541	625

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 7 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	301	41	260	342
AL	1	323	30	293	353
AL	2	346	23	323	369
AL	3	362	20	342	382
AL	4	374	18	356	392
AL	5	385	17	368	402
AL	6	395	17	378	412
AL	7	405	17	388	422
AL	8	416	17	399	433
AL	9	426	18	408	444
AL	10	438	19	419	457
AL	11	451	20	431	471
AL	12	468	24	444	492
AL	13	493	31	462	524
AL	14	516	42	474	558
GM	0	310	41	269	351
GM	1	332	30	302	362
GM	2	356	23	333	379
GM	3	372	20	352	392
GM	4	386	19	367	405
GM	5	398	18	380	416
GM	6	409	18	391	427
GM	7	420	18	402	438
GM	8	432	18	414	450
GM	9	444	19	425	463
GM	10	457	20	437	477
GM	11	473	23	450	496
GM	12	497	30	467	527
GM	13	518	41	477	559
SP	0	287	41	246	328
SP	1	308	30	278	338
SP	2	331	22	309	353
SP	3	346	19	327	365
SP	4	358	18	340	376
SP	5	368	17	351	385
SP	6	378	17	361	395
SP	7	388	16	372	404
SP	8	397	17	380	414
SP	9	408	17	391	425
SP	10	419	18	401	437
SP	11	432	20	412	452
SP	12	448	23	425	471
SP	13	472	30	442	502
SP	14	493	41	452	534
NC	0	287	43	244	330
NC	1	311	32	279	343
NC	2	339	25	314	364
NC	3	357	21	336	378

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	4	372	19	353	391
NC	5	384	18	366	402
NC	6	395	17	378	412
NC	7	405	17	388	422
NC	8	415	17	398	432
NC	9	426	17	409	443
NC	10	437	18	419	455
NC	11	450	20	430	470
NC	12	465	23	442	488
NC	13	489	30	459	519
NC	14	511	41	470	552
PR	0	295	42	253	337
PR	1	318	31	287	349
PR	2	343	24	319	367
PR	3	361	21	340	382
PR	4	376	21	355	397
PR	5	391	21	370	412
PR	6	406	20	386	426
PR	7	420	19	401	439
PR	8	432	19	413	451
PR	9	444	18	426	462
PR	10	456	18	438	474
PR	11	468	19	449	487
PR	12	481	19	462	500
PR	13	495	21	474	516
PR	14	512	23	489	535
PR	15	533	27	506	560
PR	16	565	34	531	599
PR	17	592	44	548	636

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 8 Form A**

Form A				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	264	40	240 <sup>a</sup>	304
1	285	29	256	314
2	305	21	284	326
3	318	17	301	335
4	327	15	312	342
5	334	14	320	348
6	340	13	327	353
7	346	12	334	358
8	351	11	340	362
9	355	11	344	366
10	359	10	349	369
11	363	10	353	373
12	366	10	356	376
13	369	9	360	378
14	372	9	363	381
15	375	9	366	384
16	378	9	369	387
17	381	9	372	390
18	383	9	374	392
19	386	8	378	394
20	388	8	380	396
21	391	8	383	399
22	393	8	385	401
23	395	8	387	403
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	8	402	418
31	412	8	404	420
32	415	8	407	423
33	417	8	409	425
34	419	8	411	427
35	421	8	413	429
36	423	8	415	431
37	425	7	418	432
38	427	7	420	434
39	428	7	421	435
40	430	7	423	437
41	432	8	424	440
42	434	8	426	442
43	436	8	428	444
44	438	8	430	446
45	440	8	432	448

<u>Form A</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	442	8	434	450
47	445	8	437	453
48	447	8	439	455
49	449	8	441	457
50	451	8	443	459
51	453	8	445	461
52	455	8	447	463
53	458	8	450	466
54	460	8	452	468
55	463	8	455	471
56	465	9	456	474
57	468	9	459	477
58	471	9	462	480
59	473	9	464	482
60	477	9	468	486
61	480	10	470	490
62	483	10	473	493
63	487	11	476	498
64	491	11	480	502
65	496	12	484	508
66	501	12	489	513
67	506	13	493	519
68	513	14	499	527
69	521	16	505	537
70	530	18	512	548
71	543	21	522	564
72	565	29	536	594
73	586	41	545	627

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.36 The 2007 MSA-Math Total Raw Score to Scale Score Conversion Table: Grade 8 Form F**

Raw Score	Form F			
	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
0	264	41	240 <sup>a</sup>	305
1	284	29	255	313
2	305	21	284	326
3	318	17	301	335
4	327	15	312	342
5	334	14	320	348
6	341	13	328	354
7	346	12	334	358
8	351	11	340	362
9	355	11	344	366
10	359	10	349	369
11	363	10	353	373
12	366	10	356	376
13	370	9	361	379
14	373	9	364	382
15	376	9	367	385
16	378	9	369	387
17	381	9	372	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	436	7	429	443
45	438	7	431	445

<u>Form F</u>				
Raw Score	Scale Score (SS)	Standard Error (SEM)	SS - 1SEM	SS + 1SEM
46	440	7	433	447
47	442	7	435	449
48	444	8	436	452
49	446	8	438	454
50	448	8	440	456
51	450	8	442	458
52	452	8	444	460
53	455	8	447	463
54	457	8	449	465
55	459	8	451	467
56	462	8	454	470
57	464	9	455	473
58	467	9	458	476
59	470	9	461	479
60	473	9	464	482
61	476	10	466	486
62	479	10	469	489
63	483	10	473	493
64	487	11	476	498
65	492	12	480	504
66	497	12	485	509
67	502	13	489	515
68	509	14	495	523
69	517	16	501	533
70	528	19	509	547
71	543	23	520	566
72	568	31	537	599
73	591	43	548	634

Note. <sup>a</sup>LOSS was set to 240.

**Table 4.37 The 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form A**

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	308	41	267	349
AL	1	330	30	300	360
AL	2	354	23	331	377
AL	3	369	20	349	389
AL	4	382	18	364	400
AL	5	392	17	375	409
AL	6	402	17	385	419
AL	7	412	16	396	428
AL	8	421	16	405	437
AL	9	431	17	414	448
AL	10	441	18	423	459
AL	11	453	19	434	472
AL	12	466	21	445	487
AL	13	484	24	460	508
AL	14	510	32	478	542
AL	15	533	43	490	576
GM	0	327	42	285	369
GM	1	349	31	318	380
GM	2	373	23	350	396
GM	3	389	20	369	409
GM	4	402	19	383	421
GM	5	414	18	396	432
GM	6	425	18	407	443
GM	7	436	17	419	453
GM	8	447	18	429	465
GM	9	458	19	439	477
GM	10	471	20	451	491
GM	11	487	23	464	510
GM	12	511	30	481	541
GM	13	533	41	492	574
SP	0	314	41	273	355
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	399	18	381	417
SP	6	409	17	392	426
SP	7	420	17	403	437
SP	8	431	18	413	449
SP	9	443	19	424	462
SP	10	456	20	436	476
SP	11	471	22	449	493
SP	12	490	25	465	515
SP	13	517	32	485	549
SP	14	540	43	497	583
NC	0	318	42	276	360
NC	1	339	30	309	369
NC	2	364	23	341	387

<u>Form A</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	3	380	20	360	400
NC	4	393	19	374	412
NC	5	406	18	388	424
NC	6	417	18	399	435
NC	7	429	18	411	447
NC	8	441	19	422	460
NC	9	455	20	435	475
NC	10	471	23	448	494
NC	11	495	30	465	525
NC	12	517	42	475	559
PR	0	299	42	257	341
PR	1	322	31	291	353
PR	2	348	24	324	372
PR	3	365	21	344	386
PR	4	379	19	360	398
PR	5	391	18	373	409
PR	6	402	17	385	419
PR	7	411	16	395	427
PR	8	419	15	404	434
PR	9	427	15	412	442
PR	10	434	14	420	448
PR	11	441	14	427	455
PR	12	448	14	434	462
PR	13	455	14	441	469
PR	14	463	15	448	478
PR	15	472	17	455	489
PR	16	484	19	465	503
PR	17	500	24	476	524
PR	18	527	33	494	560
PR	19	552	44	508	596

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Subtotal Raw Score to Scale Score Conversion Table: Grade 8 Form F**

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
AL	0	311	41	270	352
AL	1	332	30	302	362
AL	2	356	23	333	379
AL	3	371	19	352	390
AL	4	383	18	365	401
AL	5	393	17	376	410
AL	6	403	16	387	419
AL	7	412	16	396	428
AL	8	421	16	405	437
AL	9	429	16	413	445
AL	10	439	17	422	456
AL	11	449	18	431	467
AL	12	461	19	442	480
AL	13	476	22	454	498
AL	14	499	30	469	529
AL	15	520	41	479	561
GM	0	323	41	282	364
GM	1	344	30	314	374
GM	2	368	23	345	391
GM	3	384	20	364	404
GM	4	396	18	378	414
GM	5	408	18	390	426
GM	6	419	17	402	436
GM	7	429	18	411	447
GM	8	441	18	423	459
GM	9	453	19	434	472
GM	10	467	21	446	488
GM	11	484	24	460	508
GM	12	510	31	479	541
GM	13	532	42	490	574
SP	0	308	42	266	350
SP	1	330	31	299	361
SP	2	355	23	332	378
SP	3	371	20	351	391
SP	4	384	18	366	402
SP	5	395	17	378	412
SP	6	405	17	388	422
SP	7	415	17	398	432
SP	8	424	17	407	441
SP	9	435	17	418	452
SP	10	446	18	428	464
SP	11	459	20	439	479
SP	12	475	23	452	498
SP	13	499	31	468	530
SP	14	521	42	479	563
NC	0	325	41	284	366
NC	1	347	30	317	377
NC	2	370	23	347	393

<u>Form F</u>					
Strand	RS	SS	SEM	SS-SEM	SS+SEM
NC	3	386	20	366	406
NC	4	398	18	380	416
NC	5	410	18	392	428
NC	6	420	17	403	437
NC	7	431	18	413	449
NC	8	443	18	425	461
NC	9	455	20	435	475
NC	10	471	23	448	494
NC	11	495	30	465	525
NC	12	517	41	476	558
PR	0	298	42	256	340
PR	1	321	32	289	353
PR	2	348	25	323	373
PR	3	367	22	345	389
PR	4	383	20	363	403
PR	5	395	18	377	413
PR	6	406	17	389	423
PR	7	415	15	400	430
PR	8	423	15	408	438
PR	9	430	14	416	444
PR	10	437	14	423	451
PR	11	443	14	429	457
PR	12	450	14	436	464
PR	13	457	15	442	472
PR	14	465	16	449	481
PR	15	475	18	457	493
PR	16	487	21	466	508
PR	17	506	26	480	532
PR	18	541	38	503	579
PR	19	572	48	524	620

Note. <sup>a</sup>LOSS 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 2007 MSA-Math Score Difference between Rater 1 and Rater 2: Grade 3**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3509918	29,653	99.18	244	0.82			29,897	100.00
	3564076	26,867	89.87	3,009	10.06	21	0.07	29,897	100.00
	3509919	28,776	96.25	1,121	3.75			29,897	100.00
	3564077	24,364	81.49	5,405	18.08	128	0.43	29,897	100.00
	3510060	29,537	98.80	360	1.20			29,897	100.00
	3564078	26,114	87.35	3,752	12.55	31	0.10	29,897	100.00
	3509936	29,612	99.05	285	0.95			29,897	100.00
	3564079	26,009	87.00	3,876	12.96	12	0.04	29,897	100.00
	3510072	29,822	99.75	75	0.25			29,897	100.00
	3564080	24,704	82.63	5,095	17.04	98	0.33	29,897	100.00
	3509957	29,440	98.47	457	1.53			29,897	100.00
	3564081	26,100	87.30	3,780	12.64	17	0.06	29,897	100.00
	3510034	29,590	98.97	307	1.03			29,897	100.00
	3564082	23,945	80.09	5,930	19.83	22	0.07	29,897	100.00
F	3509918	29,630	99.24	228	0.76			29,858	100.00
	3564076	26,906	90.11	2,919	9.78	33	0.11	29,858	100.00
	3509919	28,739	96.25	1,119	3.75			29,858	100.00
	3564077	23,883	79.99	5,815	19.48	160	0.54	29,858	100.00
	3510060	29,553	98.98	305	1.02			29,858	100.00
	3564078	26,097	87.40	3,723	12.47	38	0.13	29,858	100.00
	3510067	29,666	99.36	192	0.64			29,858	100.00
	3564083	24,905	83.41	4,895	16.39	58	0.19	29,858	100.00
	3509963	29,420	98.53	438	1.47			29,858	100.00
	3564084	28,717	96.18	1,134	3.80	7	0.02	29,858	100.00
	3509922	29,481	98.74	377	1.26			29,858	100.00
	3564085	25,752	86.25	4,098	13.72	8	0.03	29,858	100.00
	3509932	29,618	99.20	240	0.80			29,858	100.00
	3564086	26,274	88.00	3,562	11.93	22	0.07	29,858	100.00

*Note.* Analyses were conducted with a whole population.

**Table 4. 40 The 2007 MSA- Mathematics Score Difference between Rater 1 and Rater 2: Grade 4**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3515405	30,051	98.85	351	1.15			30,402	100.00
	3564160	25,644	84.35	4,723	15.54	35	0.12	30,402	100.00
	3515451	30,020	98.74	382	1.26			30,402	100.00
	3564161	24,373	80.17	5,800	19.08	229	0.75	30,402	100.00
	3515886	29,621	97.43	781	2.57			30,402	100.00
	3564162	25,738	84.66	4,638	15.26	26	0.09	30,402	100.00
	3515648	29,949	98.51	453	1.49			30,402	100.00
	3564163	24,676	81.17	5,536	18.21	190	0.62	30,402	100.00
	3515577	29,869	98.25	533	1.75			30,402	100.00
	3564164	24,620	80.98	5,764	18.96	18	0.06	30,402	100.00
	3515807	30,223	99.41	179	0.59			30,402	100.00
	3564165	24,421	80.33	5,922	19.48	59	0.19	30,402	100.00
	3515585	29,915	98.40	487	1.60			30,402	100.00
	3564166	26,827	88.24	3,537	11.63	38	0.12	30,402	100.00
	F	3515595	29,867	99.22	236	0.78			30,103
3564167		24,121	80.13	5,942	19.74	40	0.13	30,103	100.00
3515603		29,675	98.58	428	1.42			30,103	100.00
3564168		26,608	88.39	3,407	11.32	88	0.29	30,103	100.00
3515638		29,016	96.39	1,087	3.61			30,103	100.00
3564169		24,900	82.72	5,159	17.14	44	0.15	30,103	100.00
3515648		29,651	98.50	452	1.50			30,103	100.00
3564163		24,198	80.38	5,685	18.89	220	0.73	30,103	100.00
3515862		29,909	99.36	194	0.64			30,103	100.00
3564170		26,148	86.86	3,906	12.98	49	0.16	30,103	100.00
3515807		29,947	99.48	156	0.52			30,103	100.00
3564165		24,552	81.56	5,517	18.33	34	0.11	30,103	100.00
3515830		29,912	99.37	191	0.63			30,103	100.00
3564171		24,756	82.24	5,306	17.63	41	0.14	30,103	100.00

Note. Analyses were conducted with a whole population.

**Table 4. 41 The 2007 MSA- Mathematics Score Difference between Rater 1 and Rater 2: Grade 5**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3511531	30,634	98.56	449	1.44			31,083	100.00
	3563986	26,092	83.94	4,947	15.92	44	0.14	31,083	100.00
	3511336	29,939	96.32	1,144	3.68			31,083	100.00
	3563987	28,643	92.15	2,427	7.81	13	0.04	31,083	100.00
	3512618	30,585	98.40	498	1.60			31,083	100.00
	3563988	27,306	87.85	3,775	12.14	2	0.01	31,083	100.00
	3512649	30,913	99.45	170	0.55			31,083	100.00
	3563989	28,919	93.04	1,839	5.92	325	1.05	31,083	100.00
	3556476	30,647	98.60	436	1.40			31,083	100.00
	3563990	26,472	85.17	4,146	13.34	465	1.50	31,083	100.00
	3511258	30,797	99.08	286	0.92			31,083	100.00
	3563991	25,063	80.63	5,935	19.09	85	0.27	31,083	100.00
	3511483	30,725	98.85	358	1.15			31,083	100.00
	3563992	25,702	82.69	5,357	17.23	24	0.08	31,083	100.00
	3511455	30,229	97.25	854	2.75			31,083	100.00
3563993	27,769	89.34	3,158	10.16	156	0.50	31,083	100.00	
F	3511336	29,905	96.86	970	3.14			30,875	100.00
	3563987	28,626	92.72	2,232	7.23	17	0.06	30,875	100.00
	3512618	30,338	98.26	537	1.74			30,875	100.00
	3563988	27,022	87.52	3,848	12.46	5	0.02	30,875	100.00
	3512649	30,685	99.38	190	0.62			30,875	100.00
	3563989	29,019	93.99	1,529	4.95	327	1.06	30,875	100.00
	3556476	30,584	99.06	291	0.94			30,875	100.00
	3563990	26,455	85.68	4,181	13.54	239	0.77	30,875	100.00
	3512530	28,931	93.70	1,944	6.30			30,875	100.00
	3563999	26,740	86.61	3,973	12.87	162	0.52	30,875	100.00
	3511483	30,584	99.06	291	0.94			30,875	100.00
	3563992	25,078	81.22	5,774	18.70	23	0.07	30,875	100.00
	3512559	30,685	99.38	190	0.62			30,875	100.00
	3564001	27,957	90.55	2,912	9.43	6	0.02	30,875	100.00

Note. Analyses were conducted with a whole population.

**Table 4. 42 The 2007 MSA- Mathematics Score Difference between Rater 1 and Rater 2: Grade 6**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3516452	30,793	97.58	765	2.42			31,558	100.00
	3564002	25,711	81.47	5,587	17.70	260	0.82	31,558	100.00
	3517013	31,341	99.31	217	0.69			31,558	100.00
	3564004	29,459	93.35	2,083	6.60	16	0.05	31,558	100.00
	3516327	30,923	97.99	635	2.01			31,558	100.00
	3564005	26,822	84.99	4,488	14.22	248	0.79	31,558	100.00
	3516627	31,131	98.65	427	1.35			31,558	100.00
	3564006	28,278	89.61	3,266	10.35	14	0.04	31,558	100.00
	3516284	31,219	98.93	339	1.07			31,558	100.00
	3564007	27,952	88.57	3,569	11.31	37	0.12	31,558	100.00
	3516333	31,034	98.34	524	1.66			31,558	100.00
	3564008	25,914	82.12	5,539	17.55	105	0.33	31,558	100.00
	3516326	31,174	98.78	384	1.22			31,558	100.00
	3564009	29,809	94.46	1,648	5.22	101	0.32	31,558	100.00
F	3517004	31,105	99.51	153	0.49			31,258	100.00
	3564010	26,163	83.70	4,747	15.19	348	1.11	31,258	100.00
	3517013	31,050	99.33	208	0.67			31,258	100.00
	3564004	29,253	93.59	1,988	6.36	17	0.05	31,258	100.00
	3516327	30,687	98.17	571	1.83			31,258	100.00
	3564005	26,923	86.13	4,137	13.24	198	0.63	31,258	100.00
	3516627	30,948	99.01	310	0.99			31,258	100.00
	3564006	28,420	90.92	2,827	9.04	11	0.04	31,258	100.00
	3516284	30,919	98.92	339	1.08			31,258	100.00
	3564007	28,128	89.99	3,099	9.91	31	0.10	31,258	100.00
	3516622	30,594	97.88	664	2.12			31,258	100.00
	3564011	26,429	84.55	4,545	14.54	284	0.91	31,258	100.00
	3516616	30,826	98.62	432	1.38			31,258	100.00
	3564012	29,121	93.16	1,991	6.37	146	0.47	31,258	100.00

*Note.* Analyses were conducted with a whole population.

**Table 4. 43 The 2007 MSA- Mathematics Score Difference between Rater 1 and Rater 2: Grade 7**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3517744	32,051	99.34	213	0.66			32,264	100.00
	3564018	28,154	87.26	3,944	12.22	166	0.51	32,264	100.00
	3517670	31,907	98.89	357	1.11			32,264	100.00
	3564019	27,605	85.56	4,497	13.94	162	0.50	32,264	100.00
	3517673	31,379	97.26	885	2.74			32,264	100.00
	3564020	27,870	86.38	4,339	13.45	55	0.17	32,264	100.00
	3517719	32,019	99.24	245	0.76			32,264	100.00
	3564021	29,131	90.29	3,122	9.68	11	0.03	32,264	100.00
	3517725	32,067	99.39	197	0.61			32,264	100.00
	3564022	29,182	90.45	3,040	9.42	42	0.13	32,264	100.00
	3517818	32,035	99.29	229	0.71			32,264	100.00
	3564023	27,768	86.06	4,493	13.93	3	0.01	32,264	100.00
	3547482	31,921	98.94	343	1.06			32,264	100.00
	3564024	26,512	82.17	5,587	17.32	165	0.51	32,264	100.00
F	3517706	30,770	96.16	1,230	3.84			32,000	100.00
	3564025	27,531	86.03	4,311	13.47	158	0.49	32,000	100.00
	3517670	31,584	98.70	416	1.30			32,000	100.00
	3564019	27,498	85.93	4,320	13.5	182	0.57	32,000	100.00
	3517648	31,583	98.70	417	1.30			32,000	100.00
	3564027	28,813	90.04	3,035	9.48	152	0.48	32,000	100.00
	3517693	31,151	97.35	849	2.65			32,000	100.00
	3564028	27,478	85.87	4,439	13.87	83	0.26	32,000	100.00
	3517666	31,810	99.41	190	0.59			32,000	100.00
	3564029	28,998	90.62	2,959	9.25	43	0.13	32,000	100.00
	3517715	31,519	98.50	481	1.50			32,000	100.00
	3564030	28,362	88.63	3,624	11.33	14	0.04	32,000	100.00
	3547487	31,811	99.41	189	0.59			32,000	100.00
	3564031	29,455	92.05	2,520	7.88	25	0.08	32,000	100.00

Note. Analyses were conducted with a whole population.

**Table 4. 44 The 2007 MSA- Mathematics Score Difference between Rater 1 and Rater 2: Grade 8**

Form	Item CID	Perfect		Adjacent		Discrepancy		Total	
		N	%	N	%	N	%	N	%
A	3514013	32,585	99.24	251	0.76			32,836	100.00
	3564107	29,373	89.45	3,431	10.45	32	0.10	32,836	100.00
	3514702	32,660	99.46	176	0.54			32,836	100.00
	3564108	28,823	87.78	3,819	11.63	194	0.59	32,836	100.00
	3514078	32,604	99.29	232	0.71			32,836	100.00
	3564109	27,057	82.40	5,555	16.92	224	0.68	32,836	100.00
	3514267	32,629	99.37	207	0.63			32,836	100.00
	3564110	29,219	88.98	3,580	10.90	37	0.11	32,836	100.00
	3514117	32,388	98.64	448	1.36			32,836	100.00
	3564111	28,814	87.75	3,985	12.14	37	0.11	32,836	100.00
	3514607	32,668	99.49	168	0.51			32,836	100.00
	3564112	29,016	88.37	3,576	10.89	244	0.74	32,836	100.00
	3514118	32,737	99.70	99	0.30			32,836	100.00
	3564113	30,568	93.09	2,262	6.89	6	0.02	32,836	100.00
	3514669	32,603	99.29	233	0.71			32,836	100.00
3564114	30,256	92.14	2,511	7.65	69	0.21	32,836	100.00	
F	3514147	32,204	99.15	276	0.85			32,480	100.00
	3564115	27,993	86.19	4,192	12.91	295	0.91	32,480	100.00
	3514283	32,220	99.20	260	0.80			32,480	100.00
	3564116	29,815	91.79	2,534	7.80	131	0.40	32,480	100.00
	3514164	31,569	97.20	911	2.80			32,480	100.00
	3564117	27,014	83.17	5,275	16.24	191	0.59	32,480	100.00
	3514108	31,318	96.42	1,162	3.58			32,480	100.00
	3564118	29,690	91.41	2,790	8.59			32,480	100.00
	3514117	31,974	98.44	506	1.56			32,480	100.00
	3564111	28,728	88.45	3,705	11.41	47	0.14	32,480	100.00
	3514152	32,191	99.11	289	0.89			32,480	100.00
	3564119	26,963	83.01	5,154	15.87	363	1.12	32,480	100.00
	3514266	32,231	99.23	249	0.77			32,480	100.00
	3564120	27,981	86.15	4,472	13.77	27	0.08	32,480	100.00
	3514133	32,128	98.92	352	1.08			32,480	100.00
3564121	29,294	90.19	3,175	9.78	11	0.03	32,480	100.00	

Note. Analyses were conducted with a whole population.