APPENDIX C: THE 2010 MSA-READING CLASSICAL AND RASCH ITEM PARAMETERS

Table C.1 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 3 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.94	0.22	-1.3708	0.0653	0.67	0.62			
3	SR	0.98	0.26	-3.3089	0.1428	0.79	0.27			
4	SR	0.75	0.47	-0.1994	0.0480	0.98	0.85			
6	SR	0.90	0.28	-1.1969	0.0617	0.90	0.85			
7	SR	0.92	0.29	-1.4394	0.0668	0.92	0.79			
8	SR	0.96	0.27	-2.1425	0.0865	0.87	0.63			
10	SR	0.72	0.32	0.1005	0.0455	1.04	1.03			
11	SR	0.70	0.37	0.4026	0.0438	0.96	0.90			
12	SR	0.79	0.36	-0.3764	0.0497	0.99	0.91			
14A	SR	0.62	0.40	0.6246	0.0429	0.98	0.97			
15A	BCR	0.49	0.28	1.3455	0.0350	1.20	1.22	-3.2269	-0.5172	3.7441
16A	SR	0.74	0.32	-0.1433	0.0475	1.07	1.23			
17A	SR	0.63	0.39	0.6215	0.0431	0.99	0.97			
18A	BCR	0.37	0.41	2.5666	0.0313	1.10	1.08	-2.8070	-0.6925	3.4995
19A	SR	0.74	0.44	0.0142	0.0466	0.88	0.81			
20A	SR	0.89	0.19	-0.8740	0.0562	0.84	1.10			
21A	BCR	0.53	0.42	1.0356	0.0372	0.98	0.98	-3.7359	-0.3326	4.0685
22A	SR	0.44	0.34	1.4344	0.0423	1.01	1.06			
23A	SR	0.55	0.28	0.6881	0.0432	1.11	1.12			
24A	BCR	0.42	0.40	2.4702	0.0332	1.08	1.08	-3.2455	-0.5997	3.8452
25A	SR	0.71	0.37	0.0445	0.0462	0.98	0.96			
26	SR	0.90	0.30	-0.3721	0.0497	0.68	0.54			
27	SR	0.78	0.31	-0.1123	0.0473	0.95	1.05			
28	SR	0.71	0.32	0.3685	0.0440	0.94	0.90			
29	SR	0.49	0.28	1.4373	0.0424	1.09	1.17			
30	SR	0.95	0.33	-2.2073	0.0890	0.87	0.58			
31	SR	0.42	0.22	1.6804	0.0430	1.16	1.28			
32	SR	0.68	0.31	0.4434	0.0438	1.03	1.10			
33	SR	0.58	0.33	0.7773	0.0427	1.04	1.07			
40	SR	0.56	0.37	1.0945	0.0422	1.01	1.07			
41	SR	0.61	0.38	0.2728	0.0447	1.12	1.17			
42	SR	0.74	0.44	-0.4174	0.0504	1.09	0.98			
43	SR	0.87	0.51	-1.2720	0.0637	1.03	0.66			
44	SR	0.76	0.41	-0.4038	0.0505	1.00	1.16			
45	SR	0.82	0.49	-0.7744	0.0553	0.92	0.71			
46	SR	0.51	0.31	1.0333	0.0426	1.07	1.11			
47	SR	0.74	0.53	-0.2203	0.0489	0.89	0.73			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.2 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 3 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.95	0.23	-1.3708	0.0667	0.66	0.82			
3	SR	0.98	0.27	-3.3089	0.1430	0.96	0.42			
4	SR	0.75	0.47	-0.1994	0.0493	0.98	0.87			
6	SR	0.91	0.29	-1.1969	0.0631	0.90	0.87			
7	SR	0.92	0.30	-1.4394	0.0681	0.97	0.87			
8	SR	0.96	0.28	-2.1425	0.0875	0.98	0.82			
10	SR	0.74	0.32	0.1005	0.0468	1.06	1.07			
11	SR	0.71	0.37	0.4026	0.0449	1.02	0.97			
12	SR	0.80	0.35	-0.3764	0.0511	1.06	0.96			
14B	SR	0.69	0.37	0.1723	0.0463	1.08	1.10			
15B	BCR	0.54	0.46	1.1436	0.0375	0.97	0.97	-3.4613	-0.6072	4.0685
16B	SR	0.67	0.44	0.6158	0.0439	0.95	0.92			
17B	SR	0.59	0.45	1.0245	0.0429	0.93	0.91			
18B	BCR	0.49	0.43	1.5943	0.0350	1.09	1.10	-3.2135	-0.5673	3.7808
19B	SR	0.76	0.50	0.2227	0.0463	0.82	0.75			
20B	SR	0.74	0.53	0.1027	0.0468	0.84	0.76			
21B	BCR	0.41	0.53	2.4265	0.0304	0.94	0.94	-2.4750	-0.7587	3.2337
22B	SR	0.74	0.45	0.1116	0.0468	0.91	0.90			
23B	SR	0.46	0.28	1.1695	0.0428	1.14	1.22			
24B	BCR	0.48	0.46	1.9958	0.0357	1.00	1.01	-3.5656	-0.7362	4.3018
25B	SR	0.71	0.38	0.4932	0.0448	1.00	1.03			
26	SR	0.89	0.28	-0.3721	0.0510	0.74	0.63			
27	SR	0.79	0.32	-0.1123	0.0485	0.98	0.99			
28	SR	0.71	0.33	0.3685	0.0451	0.98	0.95			
29	SR	0.51	0.27	1.4373	0.0427	1.13	1.22			
30	SR	0.95	0.34	-2.2073	0.0900	0.90	0.62			
31	SR	0.42	0.20	1.6804	0.0432	1.15	1.39			
32	SR	0.68	0.31	0.4434	0.0447	1.09	1.19			
33	SR	0.58	0.35	0.7773	0.0435	1.11	1.23			
40	SR	0.59	0.41	1.0945	0.0428	0.97	0.98			
41	SR	0.61	0.38	0.2728	0.0459	1.17	1.35			
42	SR	0.74	0.46	-0.4174	0.0518	1.13	1.05			
43	SR	0.87	0.53	-1.2720	0.0652	0.99	0.62			
44	SR	0.77	0.44	-0.4038	0.0519	1.03	1.00			
45	SR	0.83	0.50	-0.7744	0.0569	0.90	0.79			
46	SR	0.51	0.30	1.0333	0.0432	1.11	1.18			
47	SR	0.75	0.56	-0.2203	0.0502	0.90	0.72			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.3 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 4 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.65	0.44	0.8485	0.0449	0.94	0.87			
2	SR	0.80	0.39	-0.2773	0.0546	1.01	0.80			
3	SR	0.79	0.37	-0.0474	0.0518	0.97	0.96			
4	SR	0.95	0.32	-1.6940	0.0856	0.80	0.46			
6	SR	0.96	0.30	-2.2373	0.1067	0.90	0.48			
7	SR	0.97	0.23	-2.6904	0.1299	0.94	0.46			
8	SR	0.55	0.18	1.2863	0.0436	1.27	1.42			
10	SR	0.94	0.27	-1.7138	0.0865	0.80	0.60			
11	SR	0.89	0.33	-0.9493	0.0662	0.89	0.77			
13A	SR	0.63	0.38	1.1764	0.0438	1.00	1.01			
14A	BCR	0.52	0.38	2.1548	0.0385	1.09	1.09	-3.8957	-1.0699	4.9656
15A	SR	0.65	0.37	1.0926	0.0441	1.00	0.98			
16A	SR	0.84	0.43	-0.6023	0.0596	0.95	0.74			
17A	BCR	0.50	0.48	1.8215	0.0393	0.95	0.95	-4.3666	-0.2854	4.6520
18A	SR	0.79	0.40	0.5815	0.0466	0.83	0.71			
19A	SR	0.58	0.40	1.2015	0.0437	1.01	1.03			
20A	BCR	0.39	0.47	3.4417	0.0404	0.94	0.93	-4.6455	-0.3241	4.9696
21A	SR	0.81	0.45	0.0718	0.0505	0.79	0.63			
22A	SR	0.84	0.45	-0.3108	0.0551	0.84	0.73			
23A	BCR	0.41	0.46	2.6758	0.0405	0.95	0.94	-4.4942	0.0717	4.4225
24A	SR	0.54	0.27	1.4135	0.0435	1.18	1.33			
25	SR	0.62	0.26	1.0489	0.0442	1.14	1.23			
26	SR	0.78	0.45	0.1614	0.0497	0.87	0.73			
27	SR	0.70	0.41	0.6514	0.0460	0.95	0.92			
28	SR	0.79	0.41	0.0161	0.0512	0.96	0.81			
29	SR	0.58	0.23	1.1377	0.0439	1.22	1.30			
30	SR	0.79	0.50	0.2403	0.0490	0.75	0.61			
31	SR	0.79	0.52	0.2133	0.0492	0.75	0.57			
32	SR	0.67	0.44	0.9080	0.0447	0.90	0.90			
39	SR	0.65	0.34	0.5973	0.0464	1.15	1.16			
40	SR	0.54	0.37	1.1082	0.0442	1.15	1.27			
41	SR	0.54	0.37	0.7541	0.0455	1.26	1.31			
42	SR	0.54	0.36	1.3751	0.0436	1.06	1.09			
43	SR	0.74	0.35	0.0633	0.0510	1.12	1.19			
44	SR	0.59	0.40	0.7616	0.0457	1.14	1.12			
45	SR	0.89	0.44	-1.4346	0.0784	1.21	0.69			
46	SR	0.80	0.47	-0.3025	0.0555	0.93	0.78			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.4 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 4 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.66	0.43	0.8485	0.0443	0.92	0.84			
2	SR	0.80	0.38	-0.2773	0.0540	1.05	0.88			
3	SR	0.80	0.37	-0.0474	0.0512	0.96	0.80			
4	SR	0.95	0.32	-1.6940	0.0850	0.84	0.47			
6	SR	0.96	0.31	-2.2373	0.1058	1.09	0.78			
7	SR	0.97	0.23	-2.6904	0.1287	0.98	0.63			
8	SR	0.55	0.19	1.2863	0.0429	1.23	1.28			
10	SR	0.94	0.25	-1.7138	0.0862	0.82	0.72			
11	SR	0.89	0.31	-0.9493	0.0658	0.98	0.97			
13B	SR	0.70	0.39	0.7079	0.0450	0.93	0.87			
14B	BCR	0.39	0.40	3.0104	0.0391	0.97	0.97	-4.2257	-0.1342	4.3599
15B	SR	0.54	0.32	1.3704	0.0429	1.06	1.11			
16B	SR	0.73	0.29	0.3750	0.0474	1.02	1.00			
17B	BCR	0.41	0.33	2.5387	0.0418	1.05	1.07	-4.7019	0.2433	4.4586
18B	SR	0.65	0.31	0.8695	0.0445	1.05	1.16			
19B	SR	0.78	0.42	0.2188	0.0485	0.92	0.94			
20B	BCR	0.49	0.39	1.7103	0.0380	1.04	1.05	-4.1660	-0.0112	4.1772
21B	SR	0.67	0.36	0.9074	0.0441	0.98	0.96			
22B	SR	0.70	0.31	0.7248	0.0450	1.05	1.35			
23B	BCR	0.39	0.38	2.1940	0.0459	0.96	0.97	-4.8789	1.2263	3.6526
24B	SR	0.90	0.38	-0.4776	0.0570	0.68	0.57			
25	SR	0.61	0.26	1.0489	0.0436	1.15	1.24			
26	SR	0.78	0.44	0.1614	0.0491	0.88	0.78			
27	SR	0.70	0.40	0.6514	0.0453	0.94	0.88			
28	SR	0.79	0.39	0.0161	0.0506	0.93	0.82			
29	SR	0.59	0.23	1.1377	0.0433	1.17	1.24			
30	SR	0.79	0.49	0.2403	0.0483	0.77	0.62			
31	SR	0.80	0.52	0.2133	0.0486	0.75	0.60			
32	SR	0.66	0.41	0.9080	0.0442	0.95	0.94			
39	SR	0.69	0.34	0.5973	0.0458	1.02	0.99			
40	SR	0.54	0.37	1.1082	0.0437	1.07	1.11			
41	SR	0.56	0.36	0.7541	0.0450	1.19	1.31			
42	SR	0.55	0.36	1.3751	0.0431	1.00	1.03			
43	SR	0.74	0.34	0.0633	0.0505	1.14	1.45			
44	SR	0.59	0.40	0.7616	0.0452	1.08	1.04			
45	SR	0.89	0.43	-1.4346	0.0781	1.18	0.71			
46	SR	0.81	0.46	-0.3025	0.0551	0.94	0.77			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.5 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 5 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.87	0.18	-0.6371	0.0572	0.93	0.97			
2	SR	0.81	0.05	-0.2093	0.0510	1.18	1.53			
3	SR	0.93	0.23	-1.5529	0.0781	0.98	0.86			
4	SR	0.95	0.26	-2.0634	0.0960	0.93	0.60			
6	SR	0.94	0.32	-1.3213	0.0717	0.74	0.51			
7	SR	0.96	0.22	-2.4018	0.1110	0.98	0.72			
8	SR	0.92	0.31	-1.0118	0.0644	0.66	0.51			
9	SR	0.50	0.09	1.4561	0.0417	1.28	1.40			
10	SR	0.94	0.32	-1.7612	0.0850	0.88	0.55			
12A	SR	0.80	0.32	-0.0933	0.0496	0.90	0.92			
13A	BCR	0.45	0.48	2.1195	0.0309	0.93	0.92	-2.5645	-0.3842	2.9487
14A	SR	0.64	0.37	0.8069	0.0430	0.97	0.93			
15A	SR	0.76	0.48	0.0189	0.0485	0.87	0.70			
16A	BCR	0.28	0.42	3.2685	0.0305	0.97	0.97	-2.3037	-0.4068	2.7106
17A	SR	0.74	0.37	0.2838	0.0462	0.91	0.88			
18A	SR	0.38	0.19	1.7917	0.0421	1.15	1.22			
19A	BCR	0.55	0.46	1.0431	0.0394	0.89	0.87	-4.4367	-0.2013	4.6380
20A	SR	0.69	0.25	0.1876	0.0469	1.17	1.43			
21A	SR	0.71	0.31	0.6321	0.0438	0.98	1.02			
22A	BCR	0.44	0.40	1.7525	0.0374	0.97	0.98	-3.9147	0.6829	3.2318
23A	SR	0.72	0.26	0.5376	0.0444	1.00	1.08			
24	SR	0.67	0.28	0.6018	0.0440	1.05	1.09			
25	SR	0.74	0.39	0.1230	0.0475	0.94	0.84			
26	SR	0.86	0.33	-0.6907	0.0581	0.93	0.82			
27	SR	0.90	0.33	-0.8114	0.0604	0.75	0.65			
28	SR	0.51	0.38	1.4256	0.0417	0.97	0.96			
29	SR	0.76	0.28	0.0778	0.0479	1.06	1.03			
30	SR	0.67	0.40	0.5353	0.0443	0.97	0.90			
31	SR	0.63	0.38	1.1113	0.0420	0.93	0.90			
38	SR	0.55	0.47	1.2237	0.0419	0.89	0.85			
39	SR	0.87	0.35	-0.9702	0.0636	1.04	0.78			
40	SR	0.59	0.22	0.8757	0.0428	1.17	1.30			
41	SR	0.54	0.37	1.1801	0.0420	0.98	0.98			
42	SR	0.85	0.38	-0.8012	0.0605	0.97	0.73			
43	SR	0.68	0.34	0.2180	0.0469	1.08	1.20			
44	SR	0.71	0.40	0.0925	0.0481	1.05	0.93			
45	SR	0.45	0.27	1.5135	0.0420	1.06	1.09			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.6 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 5 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.88	0.16	-0.6371	0.0575	0.94	1.05			
2	SR	0.81	0.05	-0.2093	0.0515	1.20	1.59			
3	SR	0.93	0.22	-1.5529	0.0779	0.83	0.87			
4	SR	0.95	0.28	-2.0634	0.0953	1.12	0.74			
6	SR	0.94	0.32	-1.3213	0.0716	0.68	0.44			
7	SR	0.96	0.22	-2.4018	0.1100	1.14	0.82			
8	SR	0.92	0.32	-1.0118	0.0646	0.71	0.56			
9	SR	0.50	0.09	1.4561	0.0421	1.29	1.44			
10	SR	0.94	0.34	-1.7612	0.0846	0.96	0.61			
12B	SR	0.76	0.32	0.0403	0.0488	1.03	1.03			
13B	BCR	0.33	0.37	3.4794	0.0297	1.11	1.12	-2.7377	-1.2920	4.0297
14B	SR	0.75	0.33	0.3834	0.0459	0.93	0.88			
15B	SR	0.76	0.43	0.3344	0.0462	0.83	0.78			
16B	BCR	0.45	0.34	1.9766	0.0371	1.11	1.11	-3.8669	0.1829	3.6840
17B	SR	0.59	0.37	1.2204	0.0424	1.00	1.00			
18B	SR	0.72	0.37	0.7579	0.0437	0.91	0.84			
19B	BCR	0.56	0.52	1.4886	0.0373	0.84	0.82	-2.9558	-1.1427	4.0985
20B	SR	0.79	0.50	0.0859	0.0483	0.76	0.68			
21B	SR	0.50	0.42	1.3872	0.0422	0.92	0.95			
22B	BCR	0.54	0.54	1.3596	0.0357	0.87	0.87	-3.3973	-0.3021	3.6994
23B	SR	0.58	0.29	1.0174	0.0429	1.08	1.14			
24	SR	0.66	0.27	0.6018	0.0445	1.09	1.12			
25	SR	0.87	0.32	-0.6907	0.0584	0.96	0.82			
26	SR	0.68	0.43	0.1230	0.0480	1.12	1.09			
27	SR	0.88	0.33	-0.8114	0.0605	0.86	0.74			
28	SR	0.50	0.38	1.4256	0.0421	1.00	0.98			
29	SR	0.76	0.28	0.0778	0.0484	1.09	1.09			
30	SR	0.67	0.41	0.5353	0.0449	0.98	0.92			
31	SR	0.63	0.39	1.1113	0.0425	0.97	0.95			
38	SR	0.56	0.48	1.2237	0.0424	0.88	0.85			
39	SR	0.87	0.36	-0.9702	0.0637	1.07	0.80			
40	SR	0.59	0.24	0.8757	0.0433	1.20	1.28			
41	SR	0.55	0.37	1.1801	0.0424	1.01	1.02			
42	SR	0.86	0.39	-0.8012	0.0607	0.96	0.74			
43	SR	0.68	0.35	0.2180	0.0474	1.15	1.21			
44	SR	0.71	0.41	0.0925	0.0486	1.05	0.95			
45	SR	0.45	0.26	1.5135	0.0424	1.10	1.15			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.7 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 6 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.93	0.26	-1.3336	0.0213	0.78	0.67			
2	SR	0.97	0.22	-2.0006	0.0274	0.62	0.53			
3	SR	0.84	0.20	-0.9089	0.0185	1.28	1.63			
4	SR	0.88	0.26	-1.1479	0.0200	1.09	1.08			
5	SR	0.81	0.26	-0.5668	0.0168	1.13	1.19			
7	SR	0.93	0.34	-1.4246	0.0220	0.75	0.52			
8	SR	0.48	0.35	1.0944	0.0129	1.03	1.04			
9	SR	0.79	0.37	-0.4850	0.0165	1.09	0.96			
10	SR	0.94	0.27	-1.5147	0.0228	0.73	0.62			
12A	SR	0.80	0.24	-0.0772	0.0149	0.96	0.99			
13A	BCR	0.43	0.37	2.3640	0.0120	1.00	0.99	-4.4960	-0.1774	4.6734
14A	SR	0.68	0.23	0.6277	0.0133	1.07	1.19			
15A	SR	0.63	0.30	0.9539	0.0130	1.02	1.04			
16A	BCR	0.42	0.46	1.8859	0.0113	0.90	0.90	-3.6833	0.4747	3.2086
17A	SR	0.75	0.41	0.3013	0.0139	0.84	0.75			
18A	SR	0.61	0.37	0.8371	0.0131	0.98	0.99			
19A	BCR	0.66	0.56	0.0533	0.0099	0.85	0.85	-2.6229	-0.0592	2.6821
20A	SR	0.72	0.28	0.4772	0.0136	1.00	1.07			
21A	SR	0.74	0.44	0.1191	0.0144	0.90	0.79			
22A	BCR	0.49	0.47	2.0424	0.0106	0.94	0.93	-3.3351	-0.8743	4.2094
23A	SR	0.82	0.40	-0.2807	0.0157	0.80	0.66			
24	SR	0.73	0.31	-0.0765	0.0149	1.12	1.18			
25	SR	0.40	0.27	1.7746	0.0130	1.05	1.10			
26	SR	0.74	0.35	0.2067	0.0141	0.94	0.91			
27	SR	0.82	0.47	-0.3212	0.0158	0.80	0.62			
28	SR	0.56	0.22	1.0501	0.0129	1.12	1.15			
29	SR	0.70	0.29	0.4286	0.0137	1.02	1.05			
30	SR	0.74	0.30	0.2397	0.0141	0.98	0.99			
31	SR	0.43	0.37	1.7013	0.0129	0.96	0.98			
38	SR	0.82	0.29	-0.3824	0.0160	0.96	1.01			
39	SR	0.75	0.32	0.0668	0.0145	0.99	1.09			
40	SR	0.44	0.29	1.4178	0.0128	1.05	1.09			
41	SR	0.86	0.38	-1.2424	0.0208	1.08	0.88			
42	SR	0.41	0.13	1.7352	0.0130	1.20	1.35			
43	SR	0.67	0.32	0.1718	0.0143	1.15	1.22			
44	SR	0.77	0.40	-0.3472	0.0160	1.05	0.99			
45	SR	0.50	0.30	1.4330	0.0129	1.05	1.10			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.8 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 6 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.93	0.25	-1.3336	0.0220	0.78	0.66			
2	SR	0.97	0.21	-2.0006	0.0286	0.60	0.45			
3	SR	0.85	0.18	-0.9089	0.0190	1.28	1.62			
4	SR	0.89	0.24	-1.1479	0.0206	1.09	1.08			
5	SR	0.82	0.26	-0.5668	0.0172	1.11	1.13			
7	SR	0.93	0.33	-1.4246	0.0228	0.79	0.54			
8	SR	0.50	0.33	1.0944	0.0129	1.02	1.04			
9	SR	0.81	0.34	-0.4850	0.0168	1.07	0.97			
10	SR	0.94	0.27	-1.5147	0.0236	0.73	0.57			
12B	SR	0.68	0.30	0.7297	0.0132	0.97	0.96			
13B	BCR	0.44	0.34	2.2188	0.0106	1.03	1.02	-3.3459	-0.2957	3.6416
14B	SR	0.72	0.41	0.4921	0.0136	0.85	0.79			
15B	SR	0.85	0.25	-0.1720	0.0155	0.80	0.80			
16B	BCR	0.43	0.33	2.3693	0.0116	1.01	1.01	-4.0390	-0.2393	4.2783
17B	SR	0.63	0.27	0.7134	0.0133	1.05	1.08			
18B	SR	0.83	0.36	-0.2169	0.0156	0.81	0.77			
19B	BCR	0.37	0.43	2.6226	0.0088	0.98	0.98	-2.0771	-0.8279	2.9050
20B	SR	0.58	0.26	0.8780	0.0131	1.08	1.14			
21B	SR	0.75	0.29	0.4139	0.0138	0.92	0.94			
22B	BCR	0.46	0.45	1.9025	0.0112	0.91	0.91	-3.7652	-0.1568	3.9220
23B	SR	0.76	0.22	0.0328	0.0148	1.04	1.26			
24	SR	0.76	0.27	-0.0765	0.0151	1.08	1.17			
25	SR	0.39	0.26	1.7746	0.0130	1.02	1.06			
26	SR	0.74	0.34	0.2067	0.0143	0.96	0.91			
27	SR	0.83	0.46	-0.3212	0.0161	0.77	0.60			
28	SR	0.57	0.22	1.0501	0.0129	1.09	1.11			
29	SR	0.71	0.28	0.4286	0.0138	0.99	1.00			
30	SR	0.76	0.30	0.2397	0.0142	0.93	0.90			
31	SR	0.44	0.35	1.7013	0.0129	0.96	0.97			
38	SR	0.86	0.29	-0.3824	0.0163	0.80	0.78			
39	SR	0.74	0.33	0.0668	0.0147	0.99	1.05			
40	SR	0.45	0.29	1.4178	0.0128	1.02	1.03			
41	SR	0.87	0.37	-1.2424	0.0215	1.06	0.82			
42	SR	0.40	0.12	1.7352	0.0130	1.15	1.26			
43	SR	0.71	0.33	0.1718	0.0145	1.03	1.06			
44	SR	0.77	0.38	-0.3472	0.0163	1.08	1.01			
45	SR	0.48	0.27	1.4330	0.0129	1.05	1.09			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.9 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 7 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.26	-1.9151	0.0256	0.64	0.49			
2	SR	0.93	0.20	-1.5468	0.0225	0.81	0.92			
3	SR	0.82	0.42	-0.5743	0.0167	0.93	0.80			
5	SR	0.92	0.15	-1.1399	0.0196	0.85	1.34			
6	SR	0.95	0.31	-1.8025	0.0246	0.71	0.55			
8A	SR	0.65	0.41	0.5804	0.0136	0.97	0.95			
9A	BCR	0.47	0.58	1.9001	0.0095	0.88	0.87	-2.3606	-0.6983	3.0589
10A	SR	0.60	0.34	0.9417	0.0133	1.05	1.09			
11A	SR	0.57	0.35	0.8806	0.0133	1.05	1.08			
12A	BCR	0.52	0.54	1.6647	0.0116	0.88	0.86	-3.7561	-0.7960	4.5520
13A	SR	0.68	0.36	0.6795	0.0135	0.98	0.99			
14A	SR	0.76	0.38	0.2019	0.0143	0.91	0.86			
15A	BCR	0.38	0.35	2.6277	0.0103	1.13	1.13	-3.1280	-0.2245	3.3524
16A	SR	0.77	0.29	-0.0688	0.0149	1.03	1.31			
17A	SR	0.58	0.34	0.8732	0.0133	1.06	1.12			
18A	BCR	0.48	0.47	1.8342	0.0109	0.98	0.98	-3.4336	-0.4759	3.9095
19A	SR	0.82	0.20	-0.6846	0.0172	1.17	1.68			
20	SR	0.85	0.46	-0.4933	0.0164	0.75	0.61			
21	SR	0.66	0.31	0.5605	0.0137	1.07	1.12			
22	SR	0.77	0.44	-0.0535	0.0149	0.87	0.79			
23	SR	0.76	0.35	0.0344	0.0147	0.96	0.94			
24	SR	0.87	0.24	-0.6959	0.0172	0.91	1.21			
25	SR	0.90	0.30	-1.0941	0.0193	0.86	0.82			
26	SR	0.59	0.43	1.1265	0.0132	0.95	0.93			
27	SR	0.68	0.29	0.3428	0.0140	1.11	1.23			
28	SR	0.79	0.33	-0.2631	0.0155	1.00	1.04			
29	SR	0.90	0.34	-1.3411	0.0209	0.89	0.78			
30	SR	0.59	0.40	0.7624	0.0134	1.00	1.02			
31	SR	0.64	0.32	0.6796	0.0136	1.05	1.06			
38	SR	0.68	0.31	0.0964	0.0146	1.20	1.54			
39	SR	0.73	0.33	-0.3345	0.0159	1.25	1.58			
40	SR	0.77	0.46	-0.6932	0.0173	1.21	1.06			
41	SR	0.78	0.41	-0.7991	0.0178	1.29	1.42			
42	SR	0.67	0.45	0.3942	0.0141	0.94	0.88			
43	SR	0.69	0.41	0.1544	0.0146	1.02	0.98			
44	SR	0.76	0.43	-0.7112	0.0175	1.25	1.19			
45	SR	0.66	0.42	0.3510	0.0142	0.99	0.95			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.10 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 7 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.24	-1.9151	0.0267	0.62	0.53			
2	SR	0.93	0.19	-1.5468	0.0234	0.88	1.00			
3	SR	0.83	0.40	-0.5743	0.0172	0.96	0.78			
5	SR	0.92	0.14	-1.1399	0.0203	0.88	1.59			
6	SR	0.95	0.28	-1.8025	0.0257	0.72	0.54			
8B	SR	0.76	0.26	0.3175	0.0144	1.03	1.17			
9B	BCR	0.55	0.44	1.0549	0.0112	1.02	1.02	-3.3720	-0.3042	3.6762
10B	SR	0.85	0.32	-0.2717	0.0160	0.84	0.83			
11B	SR	0.70	0.32	0.6077	0.0139	1.01	1.01			
12B	BCR	0.48	0.55	1.8509	0.0096	0.92	0.91	-2.3735	-0.6436	3.0172
13B	SR	0.81	0.34	-0.1074	0.0155	0.89	0.91			
14B	SR	0.70	0.31	0.4863	0.0141	1.05	1.08			
15B	BCR	0.48	0.54	1.5632	0.0111	0.87	0.87	-3.5277	0.0620	3.4657
16B	SR	0.65	0.38	0.6729	0.0138	1.00	0.97			
17B	SR	0.60	0.36	0.7843	0.0137	1.06	1.09			
18B	BCR	0.44	0.53	2.2642	0.0101	0.93	0.92	-2.8422	-0.5559	3.3981
19B	SR	0.63	0.22	0.9313	0.0136	1.16	1.26			
20	SR	0.86	0.45	-0.4933	0.0169	0.74	0.58			
21	SR	0.66	0.30	0.5605	0.0139	1.09	1.16			
22	SR	0.78	0.41	-0.0535	0.0153	0.91	0.85			
23	SR	0.77	0.36	0.0344	0.0151	0.96	0.91			
24	SR	0.87	0.22	-0.6959	0.0178	0.99	1.33			
25	SR	0.90	0.31	-1.0941	0.0200	0.85	0.75			
26	SR	0.61	0.43	1.1265	0.0134	0.95	0.92			
27	SR	0.69	0.30	0.3428	0.0143	1.11	1.28			
28	SR	0.79	0.33	-0.2631	0.0160	1.02	1.06			
29	SR	0.91	0.31	-1.3411	0.0217	0.90	0.83			
30	SR	0.59	0.40	0.7624	0.0137	1.02	1.06			
31	SR	0.64	0.34	0.6796	0.0138	1.05	1.07			
38	SR	0.69	0.29	0.0964	0.0150	1.23	1.70			
39	SR	0.75	0.37	-0.3345	0.0163	1.18	1.47			
40	SR	0.79	0.49	-0.6932	0.0179	1.15	0.95			
41	SR	0.78	0.44	-0.7991	0.0184	1.31	1.37			
42	SR	0.67	0.45	0.3942	0.0144	0.97	0.92			
43	SR	0.70	0.43	0.1544	0.0149	1.01	0.95			
44	SR	0.77	0.44	-0.7112	0.0181	1.24	1.16			
45	SR	0.64	0.42	0.3510	0.0145	1.05	1.07			

Note. 'B' indicates that it is a unique item appearing only on Form B.

Table C.11 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 8 Form A

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.22	-2.4145	0.1065	0.96	0.89			
2	SR	0.94	0.30	-1.6274	0.0777	0.72	0.53			
4	SR	0.85	0.32	-0.6076	0.0556	1.00	0.93			
5	SR	0.83	0.28	-0.6192	0.0558	1.12	1.22			
6	SR	0.92	0.34	-1.3966	0.0715	0.82	0.70			
8A	SR	0.87	0.43	-0.5250	0.0543	0.74	0.61			
9A	BCR	0.48	0.52	1.7109	0.0374	0.86	0.85	-4.1238	-0.2525	4.3762
10A	SR	0.57	0.40	1.2858	0.0417	0.96	0.96			
11A	SR	0.64	0.29	0.4757	0.0444	1.16	1.25			
12A	BCR	0.47	0.52	1.7133	0.0328	0.87	0.87	-3.0093	-0.1130	3.1224
13A	SR	0.72	0.28	0.5756	0.0438	0.98	0.98			
14A	SR	0.55	0.21	0.9798	0.0422	1.17	1.37			
15A	BCR	0.52	0.46	1.6913	0.0351	0.96	0.94	-3.1884	-0.7752	3.9636
16A	SR	0.67	0.32	0.8337	0.0427	1.02	1.01			
17A	SR	0.78	0.38	0.0322	0.0478	0.88	0.80			
18A	BCR	0.53	0.48	1.2165	0.0371	0.91	0.91	-3.7399	-0.3116	4.0514
19A	SR	0.91	0.30	-1.2446	0.0678	0.87	0.76			
20	SR	0.73	0.25	0.2439	0.0460	1.07	1.18			
21	SR	0.88	0.40	-0.5739	0.0551	0.74	0.57			
22	SR	0.65	0.46	0.7760	0.0430	0.87	0.83			
23	SR	0.85	0.38	-0.3472	0.0519	0.79	0.75			
24	SR	0.88	0.41	-0.9291	0.0610	0.87	0.75			
25	SR	0.76	0.28	0.0425	0.0477	1.05	1.09			
26	SR	0.84	0.33	-0.5775	0.0551	0.99	0.99			
27	SR	0.60	0.25	0.9021	0.0424	1.14	1.18			
28	SR	0.67	0.33	0.5640	0.0438	1.03	1.00			
29	SR	0.52	0.33	1.1974	0.0417	1.04	1.05			
30	SR	0.79	0.39	-0.2137	0.0503	0.97	0.95			
31	SR	0.62	0.25	0.8184	0.0427	1.15	1.25			
38	SR	0.75	0.48	-0.3439	0.0523	1.09	0.96			
39	SR	0.57	0.39	0.5919	0.0441	1.11	1.16			
40	SR	0.71	0.37	0.2345	0.0465	1.03	1.15			
41	SR	0.51	0.19	1.0198	0.0425	1.21	1.30			
42	SR	0.65	0.50	0.5386	0.0449	0.90	0.82			
43	SR	0.72	0.28	-0.1356	0.0505	1.26	1.78			
44	SR	0.77	0.45	-0.3691	0.0534	0.92	0.80			
45	SR	0.79	0.38	-0.4449	0.0545	0.94	1.04			

Note. 'A' indicates that it is a unique item appearing only on Form A.

Table C.12 The 2010 MSA-Math Classical and Rasch Item Parameters: Grade 8 Form B

Item Number	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SEM	Ms. Infit	Ms. Outfit	Step 0-1	Step 1-2	Step 2-3
1	SR	0.96	0.20	-2.4145	0.1091	0.99	0.78			
2	SR	0.94	0.30	-1.6274	0.0797	0.77	0.62			
4	SR	0.86	0.32	-0.6076	0.0568	0.96	0.86			
5	SR	0.84	0.28	-0.6192	0.0571	1.06	1.03			
6	SR	0.92	0.32	-1.3966	0.0732	0.86	0.65			
8B	SR	0.68	0.46	0.8518	0.0432	0.86	0.80			
9B	BCR	0.60	0.45	0.7717	0.0380	0.97	0.98	-2.6448	-0.9787	3.6235
10B	SR	0.63	0.40	1.1997	0.0422	0.95	0.93			
11B	SR	0.69	0.24	0.5533	0.0447	1.10	1.14			
12B	BCR	0.49	0.49	1.2207	0.0375	0.93	0.92	-4.3808	0.3190	4.0618
13B	SR	0.84	0.34	-0.1105	0.0503	0.82	0.78			
14B	SR	0.82	0.37	-0.0788	0.0498	0.83	0.79			
15B	BCR	0.51	0.46	1.4923	0.0363	0.99	0.99	-3.7058	-0.2043	3.9101
16B	SR	0.70	0.29	0.9417	0.0429	1.01	1.05			
17B	SR	0.86	0.36	-0.6485	0.0577	0.92	0.87			
18B	BCR	0.44	0.49	2.3441	0.0320	0.97	0.95	-2.8395	-0.7712	3.6107
19B	SR	0.82	0.41	-0.1232	0.0506	0.81	0.65			
20	SR	0.74	0.25	0.2439	0.0468	1.07	1.29			
21	SR	0.89	0.39	-0.5739	0.0562	0.77	0.67			
22	SR	0.64	0.44	0.7760	0.0436	0.92	0.89			
23	SR	0.85	0.37	-0.3472	0.0532	0.88	0.84			
24	SR	0.89	0.40	-0.9291	0.0625	0.83	0.65			
25	SR	0.78	0.28	0.0425	0.0486	1.03	1.16			
26	SR	0.85	0.31	-0.5775	0.0564	1.01	1.06			
27	SR	0.62	0.27	0.9021	0.0430	1.15	1.32			
28	SR	0.66	0.31	0.5640	0.0446	1.07	1.06			
29	SR	0.51	0.33	1.1974	0.0422	1.08	1.09			
30	SR	0.81	0.40	-0.2137	0.0514	0.90	0.80			
31	SR	0.61	0.26	0.8184	0.0434	1.13	1.21			
38	SR	0.75	0.47	-0.3439	0.0538	1.11	0.97			
39	SR	0.56	0.39	0.5919	0.0451	1.19	1.26			
40	SR	0.71	0.39	0.2345	0.0476	1.05	1.05			
41	SR	0.51	0.19	1.0198	0.0432	1.29	1.50			
42	SR	0.65	0.51	0.5386	0.0460	0.88	0.81			
43	SR	0.70	0.27	-0.1356	0.0521	1.37	1.92			
44	SR	0.77	0.46	-0.3691	0.0552	1.03	0.89			
45	SR	0.79	0.39	-0.4449	0.0563	1.01	1.02			

Note. 'B' indicates that it is a unique item appearing only on Form B.