

**APPENDIX D: THE 2007 MSA-MATH CLASSICAL AND IRT ITEM PARAMETERS**

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**Table D.1 The 2007 MSA-Math Classical and IRT Item Parameters: Grade 3 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2109793	SR	0.33	0.34	2.7485	0.0444	1.02	1.17			
2109796	SR	0.59	0.46	1.2834	0.0437	0.99	0.96			
2109798	SR	0.49	0.42	1.7953	0.0430	1.01	1.05			
3509918	BCR	0.76	0.46	0.2848	0.0489	0.97	0.93			
3564076	BCR	0.50	0.50	1.8054	0.0342	1.06	1.05	-1.5584	1.5584	
3509931	SR	0.65	0.38	0.9627	0.0441	1.12	1.17			
3510022	SR	0.47	0.33	2.0077	0.0422	1.14	1.29			
3510009	SR	0.79	0.41	0.0690	0.0510	1.04	1.07			
3509953	SR	0.94	0.38	-1.6881	0.0865	0.89	0.54			
3548054	SR	0.93	0.29	-1.7100	0.0868	1.34	1.58			
3509955	SR	0.57	0.34	1.8411	0.0420	1.13	1.25			
3509964	SR	0.74	0.52	-0.0360	0.0522	1.14	1.01			
3509966	SR	0.90	0.24	-0.7332	0.0625	0.93	1.02			
3509974	SR	0.66	0.27	1.0359	0.0439	1.26	1.39			
3509979	SR	0.84	0.39	-0.0209	0.0520	0.89	0.80			
3509919	BCR	0.64	0.47	1.0279	0.0446	1.02	1.12			
3564077	BCR	0.57	0.53	1.3747	0.0317	1.04	1.04	-1.0227	1.0227	
3509987	SR	0.66	0.49	0.9682	0.0443	0.94	0.85			
3510017	SR	0.91	0.40	-1.1315	0.0710	0.92	0.82			
3510003	SR	0.84	0.44	-0.4214	0.0574	0.94	0.76			
3510006	SR	0.61	0.54	1.2257	0.0433	0.90	0.88			
3548055	SR	0.93	0.40	-2.4386	0.1171	1.85	0.92			
3510011	SR	0.63	0.47	0.9634	0.0444	1.01	1.00			
3510125	SR	0.52	0.47	1.6971	0.0425	0.96	0.97			
3510018	SR	0.77	0.50	0.2953	0.0487	0.90	0.84			
3510023	SR	0.50	0.43	1.8271	0.0421	1.02	1.05			
3510027	SR	0.87	0.40	-0.5906	0.0601	0.91	0.80			
3510029	SR	0.94	0.40	-1.3693	0.0766	0.62	0.33			
3510032	SR	0.88	0.30	-1.0976	0.0699	1.44	2.03			
3510035	SR	0.87	0.36	-0.6165	0.0604	1.00	1.25			
3510051	SR	0.54	0.46	1.4814	0.0425	0.97	0.97			
3510053	SR	0.84	0.35	-0.2691	0.0553	0.98	1.19			
3510055	SR	0.62	0.49	1.2952	0.0429	0.92	0.91			
3510058	SR	0.86	0.47	-0.6059	0.0603	0.91	0.84			
3510060	BCR	0.84	0.33	-0.4888	0.0593	1.07	1.12			
3564078	BCR	0.53	0.50	1.5699	0.0362	0.98	0.98	-1.8116	1.8116	
3510346	SR	0.85	0.43	-0.5185	0.0590	0.94	1.00			
3510033	SR	0.79	0.38	0.0473	0.0515	1.03	1.04			
3510012	SR	0.78	0.48	0.0993	0.0510	0.93	0.82			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3510062	SR	0.85	0.20	-0.3652	0.0563	1.15	1.45			
3510063	SR	0.78	0.43	0.4861	0.0471	0.87	0.80			
3509983	SR	0.91	0.44	-1.1470	0.0711	0.87	0.70			
3510065	SR	0.96	0.29	-2.1822	0.1047	1.20	0.99			
3510066	SR	0.80	0.52	0.0425	0.0513	0.85	0.72			
3509936	BCR	0.74	0.54	0.4441	0.0477	0.92	0.84			
3564079	BCR	0.48	0.55	1.9803	0.0346	0.96	0.95	-1.6081	1.6081	
3510071	SR	0.64	0.54	0.9317	0.0446	0.88	0.77			
3510072	BCR	0.85	0.42	-0.5702	0.0596	0.95	1.02			
3564080	BCR	0.58	0.56	1.3990	0.0302	1.04	1.06	-0.6985	0.6985	
3510126	SR	0.78	0.43	0.1797	0.0498	1.01	0.89			
3509945	SR	0.91	0.44	-1.1209	0.0705	0.88	0.75			
3509957	BCR	0.77	0.31	0.1695	0.0501	1.15	1.20			
3564081	BCR	0.43	0.46	2.3042	0.0361	1.10	1.11	-1.8051	1.8051	
3509958	SR	0.87	0.53	-0.3242	0.0558	0.69	0.53			
3509961	SR	0.92	0.34	-1.3667	0.0766	0.87	0.85			
3510068	SR	0.81	0.46	-0.3305	0.0559	1.01	1.06			
3510069	SR	0.35	0.20	2.8084	0.0447	1.29	1.82			
3510070	SR	0.97	0.26	-2.6459	0.1276	0.80	0.69			
3510034	BCR	0.30	0.42	2.8934	0.0449	0.93	0.90			
3564082	BCR	0.32	0.52	3.0491	0.0355	0.93	0.92	-1.5541	1.5541	
3510041	SR	0.92	0.35	-1.8190	0.0905	1.41	1.44			
3510043	SR	0.76	0.40	0.0444	0.0511	1.19	1.19			
3510044	SR	0.86	0.37	-0.5231	0.0590	0.98	0.96			
3510329	SR	0.55	0.34	1.5719	0.0424	1.17	1.33			

**Table D.2 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 3 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2109793	SR	0.33	0.33	2.7485	0.0433	1.02	1.12			
2109796	SR	0.59	0.46	1.2834	0.0434	0.96	0.93			
2109798	SR	0.50	0.42	1.7953	0.0423	0.99	1.03			
3509918	BCR	0.76	0.46	0.2848	0.05	1	0.96			
3564076	BCR	0.51	0.49	1.8054	0.034	1.07	1.06	-1.5584	1.5584	
3509980	SR	0.45	0.33	2.2264	0.0416	1.08	1.19			
3510022	SR	0.49	0.31	2.0077	0.0416	1.1	1.2			
3548059	SR	0.71	0.55	0.6288	0.0468	0.82	0.69			
3510071	SR	0.64	0.55	0.9317	0.0446	0.9	0.8			
3548057	SR	0.73	0.37	0.5502	0.0474	1.05	1.1			
3509955	SR	0.56	0.32	1.8411	0.0415	1.09	1.16			
3509964	SR	0.75	0.53	-0.036	0.0539	1.07	0.87			
3509966	SR	0.90	0.24	-0.7332	0.0661	1.06	1.53			
3509923	SR	0.82	0.55	0.0147	0.0532	0.74	0.59			
3509959	SR	0.70	0.47	0.874	0.045	0.92	0.87			
3509919	BCR	0.65	0.47	1.0279	0.0444	0.99	1.01			
3564077	BCR	0.57	0.53	1.3747	0.0315	1.1	1.08	-1.0227	1.0227	
3509926	SR	0.36	0.42	2.4187	0.0421	0.92	0.91			
3509960	SR	0.76	0.35	0.3981	0.0491	1.1	1.21			
3509927	SR	0.78	0.35	0.4123	0.0488	0.98	1.18			
3509928	SR	0.88	0.50	-0.6271	0.0639	0.69	0.47			
3510009	SR	0.77	0.43	0.069	0.0528	1.09	1.03			
3510069	SR	0.33	0.18	2.8084	0.0436	1.22	1.62			
3509988	SR	0.73	0.43	0.5005	0.0481	1.01	1.05			
3509929	SR	0.54	0.47	1.8021	0.0416	0.93	0.97			
3509930	SR	0.95	0.39	-1.9318	0.1025	0.93	0.85			
3510018	SR	0.78	0.51	0.2953	0.0499	0.83	0.68			
3510027	SR	0.87	0.39	-0.5906	0.0634	0.88	0.85			
3510029	SR	0.95	0.40	-1.3693	0.0822	0.46	0.25			
3510035	SR	0.87	0.34	-0.6165	0.0633	1.16	1.39			
3510053	SR	0.85	0.36	-0.2691	0.0573	0.98	1.35			
3509933	SR	0.91	0.24	-1.2635	0.079	1.42	1.69			
3510051	SR	0.51	0.46	1.4814	0.0422	0.98	0.97			
3509962	SR	0.88	0.43	-0.6247	0.0639	0.86	0.68			
3510060	BCR	0.83	0.32	-0.4888	0.0615	1.23	1.25			
3564078	BCR	0.53	0.50	1.5699	0.0361	0.96	0.96	-1.8116	1.8116	
3510052	SR	0.75	0.28	0.5884	0.0472	1.19	1.34			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3510347	SR	0.68	0.46	0.9229	0.0448	0.99	1.06			
3510036	SR	0.85	0.42	-0.5397	0.0625	0.96	1.01			
3510062	SR	0.85	0.21	-0.3652	0.0589	1.1	1.3			
3510063	SR	0.79	0.43	0.4861	0.048	0.87	0.8			
3509945	SR	0.92	0.43	-1.1209	0.075	0.81	0.61			
3509935	SR	0.67	0.44	1.2515	0.043	0.95	0.92			
3510067	BCR	0.82	0.36	-0.1708	0.0559	1.02	0.97			
3564083	BCR	0.73	0.36	0.4429	0.035	1.26	1.3	-1.0657	1.0657	
3510006	SR	0.64	0.53	1.2257	0.043	0.85	0.8			
3509956	SR	0.64	0.31	1.1953	0.0433	1.16	1.22			
3509963	BCR	0.74	0.40	0.1298	0.052	1.12	1.3			
3564084	BCR	0.47	0.44	1.9318	0.0705	0.99	0.99	-3.8671	3.8671	
3548063	SR	0.93	0.43	-1.4037	0.0836	0.69	0.38			
3509965	SR	0.94	0.36	-1.6657	0.0927	0.91	0.54			
3509922	BCR	0.65	0.45	1.0354	0.0441	0.98	0.96			
3564085	BCR	0.34	0.50	3.3509	0.0391	0.93	0.92	-2.2387	2.2387	
3509958	SR	0.88	0.54	-0.3242	0.0581	0.64	0.43			
3509961	SR	0.92	0.35	-1.3667	0.0822	1.04	1.28			
3510066	SR	0.82	0.51	0.0425	0.0528	0.79	0.62			
3509938	SR	0.93	0.37	-1.6759	0.0927	1.07	0.84			
3510070	SR	0.98	0.26	-2.6459	0.1397	0.9	0.88			
3509932	BCR	0.98	0.28	-2.7619	0.1469	0.95	0.6			
3564086	BCR	0.39	0.54	2.643	0.0344	0.92	0.91	-1.5825	1.5825	
3510041	SR	0.93	0.32	-1.819	0.098	1.45	1.61			
3510043	SR	0.77	0.40	0.0444	0.0528	1.15	1.13			
3510044	SR	0.84	0.37	-0.5231	0.0617	1.17	1.1			
3510013	SR	0.50	0.31	1.8364	0.0415	1.16	1.31			

**Table D.3 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 4 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3515405	BCR	0.80	0.32	-0.6315	0.0529	1.06	1.28			
3564160	BCR	0.57	0.37	0.2677	0.047	1.07	1.1	-2.9522	2.9522	
3515406	SR	0.60	0.42	0.6241	0.0432	1.02	1			
3515407	SR	0.85	0.44	-0.799	0.0552	0.8	0.69			
3515408	SR	0.68	0.55	0.1763	0.0455	0.87	0.74			
3515410	SR	0.81	0.40	-1.055	0.0591	1.2	1.19			
3515411	SR	0.84	0.31	-0.6969	0.0538	0.99	1.02			
3515421	SR	0.82	0.41	-0.6701	0.0536	0.9	0.87			
3515425	SR	0.64	0.51	0.4405	0.0436	0.9	0.84			
3515426	SR	0.44	0.36	1.6228	0.0424	1.09	1.14			
3515428	SR	0.94	0.29	-1.7288	0.0733	0.6	0.42			
3515447	SR	0.45	0.45	1.4979	0.0422	0.95	1.01			
3515451	BCR	0.70	0.60	0.0472	0.0465	0.85	0.79			
3564161	BCR	0.67	0.59	0.3581	0.0308	1.01	1.04	-0.4204	0.4204	
3515604	SR	0.64	0.52	0.394	0.0443	0.91	0.87			
3515456	SR	0.81	0.36	-0.7475	0.0546	1.17	1.52			
3515467	SR	0.95	0.27	-2.6054	0.1031	0.98	1.19			
3515840	SR	0.65	0.35	0.4436	0.0441	1.16	1.33			
3515470	SR	0.69	0.40	0.0797	0.0463	1.04	1			
3515705	SR	0.75	0.38	-0.2051	0.0487	1.08	1.15			
3515471	SR	0.86	0.39	-0.9767	0.0579	0.94	0.77			
3515479	SR	0.73	0.38	0.0054	0.0466	1.06	1.15			
3515484	SR	0.92	0.30	-1.7626	0.0742	0.95	1.28			
3515486	SR	0.57	0.39	0.7468	0.043	1.1	1.12			
3515630	SR	0.50	0.47	0.9291	0.0424	1.01	1.01			
3515631	SR	0.77	0.38	-0.4674	0.0511	1.06	1.14			
3515490	SR	0.92	0.35	-1.2672	0.063	0.64	0.46			
3515514	SR	0.89	0.43	-1.4725	0.0673	0.88	0.69			
3515519	SR	0.82	0.41	-0.6898	0.0538	0.97	1.17			
3515533	SR	0.85	0.49	-0.7839	0.055	0.78	0.64			
3515543	SR	0.79	0.52	-0.2743	0.0491	0.75	0.67			
3515545	SR	0.86	0.44	-0.8464	0.056	0.77	0.64			
3515886	BCR	0.45	0.47	1.4586	0.0424	0.95	0.93			
3564162	BCR	0.52	0.48	0.8111	0.0382	1.04	1.05	-1.9929	1.9929	
3515909	SR	0.49	0.48	1.2871	0.0422	0.95	0.95			
3548085	SR	0.55	0.50	0.9256	0.0427	0.89	0.86			
3548086	SR	0.76	0.43	-0.2943	0.0496	0.99	1.01			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3515787	SR	0.51	0.27	1.1443	0.0424	1.16	1.24			
3515557	SR	0.69	0.29	-0.0497	0.0471	1.3	1.76			
3515558	SR	0.36	0.19	2.1761	0.0441	1.34	1.69			
3515648	BCR	0.50	0.55	1.2409	0.0421	0.87	0.82			
3564163	BCR	0.56	0.65	0.847	0.0313	0.82	0.81	-0.9809	0.9809	
3515559	SR	0.72	0.40	0.1734	0.0455	0.99	1.06			
3515570	SR	0.52	0.43	0.8666	0.0426	1.05	1.09			
3515571	SR	0.85	0.42	-0.9395	0.0573	0.9	0.96			
3515573	SR	0.50	0.47	1.3716	0.042	0.97	0.96			
3515574	SR	0.85	0.48	-0.9677	0.0578	0.87	0.74			
3515577	BCR	0.73	0.42	-0.157	0.0487	1.06	1.25			
3564164	BCR	0.50	0.47	1.2002	0.0386	1.05	1.05	-2.0544	2.0544	
3548081	SR	0.58	0.35	0.8669	0.0425	1.12	1.18			
3515807	BCR	0.79	0.36	-0.7079	0.0544	1.09	1.12			
3564165	BCR	0.37	0.47	2.1566	0.0359	1.07	1.07	-1.7285	1.7285	
3515423	SR	0.90	0.44	-1.6156	0.0706	0.89	0.77			
3515424	SR	0.57	0.49	0.7782	0.0429	0.94	0.91			
3515575	SR	0.77	0.39	-0.1077	0.0477	0.93	0.92			
3515576	SR	0.61	0.41	0.5508	0.0437	1.04	1.04			
3515585	BCR	0.19	0.42	3.2248	0.0529	0.87	0.66			
3564166	BCR	0.43	0.63	1.6067	0.0322	0.86	0.85	-1.1609	1.1609	
3515500	SR	0.71	0.38	-0.3554	0.0499	1.26	1.4			
3515506	SR	0.89	0.42	-1.2169	0.0622	0.76	0.6			
3548083	SR	0.88	0.26	-1.6445	0.0713	1.42	2.19			
3515832	SR	0.66	0.48	0.3339	0.0447	0.93	0.87			
3548088	SR	0.74	0.46	-0.1831	0.0484	0.95	0.93			
3515853	SR	0.71	0.48	-0.106	0.0484	0.95	0.84			

**Table D.4 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 4 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3515595	BCR	0.77	0.47	-0.4303	0.0497	0.91	0.77			
3564167	BCR	0.47	0.56	1.4549	0.0359	0.95	0.94	-1.7990	1.7990	
3515407	SR	0.85	0.44	-0.799	0.0537	0.84	0.7			
3515596	SR	0.78	0.31	-0.5201	0.0504	1.15	1.39			
3515447	SR	0.46	0.47	1.4979	0.0423	0.96	0.98			
3515408	SR	0.69	0.55	0.1763	0.0449	0.84	0.74			
3515599	SR	0.71	0.39	0.223	0.0446	1	1.08			
3515410	SR	0.82	0.40	-1.055	0.0573	1.11	1.08			
3515600	SR	0.75	0.28	-0.3709	0.049	1.24	1.56			
3515601	SR	0.68	0.40	-0.0452	0.0464	1.08	1.12			
3515602	SR	0.53	0.39	1.0231	0.0423	1.07	1.08			
3515428	SR	0.94	0.26	-1.7288	0.0709	0.66	0.58			
3515603	BCR	0.55	0.53	0.8277	0.0429	0.9	0.87			
3564168	BCR	0.38	0.60	1.8996	0.0324	0.89	0.85	-1.0960	1.0960	
3515604	SR	0.64	0.53	0.394	0.044	0.88	0.79			
3515605	SR	0.53	0.50	0.9009	0.0425	0.95	0.93			
3515456	SR	0.80	0.37	-0.7475	0.0533	1.03	1.17			
3515467	SR	0.94	0.26	-2.6054	0.0994	0.9	1.36			
3515606	SR	0.91	0.34	-1.7067	0.0705	0.93	0.86			
3515652	SR	0.68	0.31	0.1694	0.0452	1.19	1.43			
3515471	SR	0.86	0.37	-0.9767	0.0561	0.88	0.72			
3515936	SR	0.86	0.29	-1.1494	0.0589	1.07	1.36			
3515486	SR	0.57	0.39	0.7468	0.0427	1.08	1.11			
3548078	SR	0.50	0.43	0.6281	0.043	1.13	1.23			
3515630	SR	0.50	0.48	0.9291	0.0423	0.99	0.97			
3515631	SR	0.77	0.37	-0.4674	0.05	1.04	1.24			
3515632	SR	0.71	0.53	-0.0118	0.046	0.9	0.77			
3515634	SR	0.75	0.49	-0.2435	0.0478	0.9	0.91			
3515635	SR	0.60	0.49	0.6901	0.0428	0.96	0.95			
3548079	SR	0.94	0.36	-2.3	0.0871	0.91	0.62			
3515636	SR	0.54	0.45	0.8456	0.0427	1.04	1.06			
3515545	SR	0.86	0.41	-0.8464	0.0543	0.85	0.85			
3515638	BCR	0.62	0.55	0.3998	0.044	0.89	0.83			
3564169	BCR	0.46	0.53	1.3844	0.0339	1.04	1.06	-1.5044	1.5044	
3515791	SR	0.75	0.37	-0.2628	0.0481	1.04	1.2			
3515795	SR	0.60	0.46	0.5626	0.0435	0.98	0.96			
3515869	SR	0.56	0.48	0.808	0.0428	0.94	0.91			



Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3515836	SR	0.58	0.46	0.6346	0.0434	0.96	0.93			
3515557	SR	0.71	0.34	-0.0497	0.0462	1.12	1.26			
3515640	SR	0.42	0.33	1.772	0.0429	1.13	1.35			
3515648	BCR	0.50	0.57	1.2409	0.0421	0.86	0.8			
3564163	BCR	0.55	0.65	0.847	0.0312	0.92	0.88	-0.9809	0.9809	
3515641	SR	0.83	0.51	-0.8522	0.0544	0.83	0.71			
3515570	SR	0.50	0.44	0.8666	0.0424	1.04	1.11			
3515571	SR	0.85	0.39	-0.9395	0.0556	0.89	0.97			
3515643	SR	0.38	0.45	1.757	0.0428	0.97	0.97			
3515645	SR	0.71	0.38	-0.1355	0.0469	1.15	1.22			
3515862	BCR	0.49	0.47	1.1734	0.0423	1	0.98			
3564170	BCR	0.59	0.59	0.6541	0.0304	1	0.96	-0.6701	0.6701	
3548081	SR	0.57	0.34	0.8669	0.0424	1.13	1.14			
3515807	BCR	0.78	0.36	-0.7079	0.0527	1.23	1.3			
3564165	BCR	0.37	0.49	2.1566	0.0357	1.03	1.02	-1.7285	1.7285	
3515424	SR	0.59	0.50	0.7782	0.0426	0.94	0.94			
3515425	SR	0.71	0.54	-0.1565	0.0471	0.88	0.74			
3515575	SR	0.79	0.44	-0.1077	0.0467	0.86	0.8			
3515576	SR	0.60	0.42	0.5508	0.0432	0.99	0.92			
3515830	BCR	0.95	0.29	-2.4304	0.0916	0.97	2.12			
3564171	BCR	0.71	0.33	-0.5629	0.0373	1.28	1.4	-1.5858	1.5858	
3515933	SR	0.76	0.26	-0.3619	0.0488	1.19	1.38			
3515506	SR	0.89	0.39	-1.2169	0.06	0.79	0.65			
3515592	SR	0.82	0.45	-0.8156	0.054	0.93	0.83			
3515931	SR	0.67	0.48	0.1924	0.0448	0.92	0.84			
3515880	SR	0.69	0.40	0.0211	0.0458	1.04	1.02			
3515887	SR	0.89	0.33	-1.4589	0.0646	0.99	1.1			

**Table D.5 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 5 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2105953	SR	0.70	0.57	-0.0727	0.045	0.83	0.7			
2105954	SR	0.78	0.30	-0.6503	0.0496	1.09	1.17			
2105975	SR	0.51	0.55	0.9019	0.0429	0.89	0.87			
2105978	SR	0.38	0.43	1.3673	0.0447	0.99	1.05			
3511531	BCR	0.68	0.52	0.0868	0.0442	0.9	0.83			
3563986	BCR	0.55	0.53	0.6862	0.0347	0.97	0.98	-1.6106	1.6106	
3511196	SR	0.55	0.52	0.6094	0.0423	0.91	0.88			
3511203	SR	0.87	0.46	-1.3086	0.0582	0.83	0.62			
3511216	SR	0.67	0.25	0.203	0.0436	1.19	1.24			
3512606	SR	0.63	0.32	0.3045	0.043	1.14	1.27			
3511246	SR	0.78	0.46	-0.331	0.0466	0.86	0.78			
3512632	SR	0.39	0.38	1.6552	0.0432	1.07	1.21			
3512702	SR	0.54	0.35	0.8431	0.0419	1.14	1.23			
3511307	SR	0.41	0.34	1.5483	0.0427	1.13	1.26			
3511312	SR	0.39	0.36	1.5795	0.0428	1.1	1.27			
3511336	BCR	0.33	0.47	1.8944	0.0448	0.92	0.87			
3563987	BCR	0.34	0.61	1.9609	0.033	0.84	0.8	-1.0144	1.0144	
3511339	SR	0.62	0.50	0.4633	0.0428	0.88	0.9			
3511345	SR	0.92	0.31	-1.6886	0.0657	0.73	0.73			
3511348	SR	0.57	0.40	0.8118	0.0422	1.06	1.11			
3511626	SR	0.81	0.32	-0.926	0.053	1.06	1.14			
3511371	SR	0.53	0.23	0.8516	0.0422	1.3	1.44			
3511376	SR	0.81	0.40	-0.9892	0.0535	1.11	1.34			
3512638	SR	0.64	0.45	0.2606	0.0433	1	0.99			
3511396	SR	0.84	0.40	-1.1516	0.0556	0.99	0.99			
3511410	SR	0.67	0.44	-0.0507	0.0447	1.08	1.12			
3512618	BCR	0.45	0.55	1.2891	0.0424	0.85	0.81			
3563988	BCR	0.52	0.47	0.6654	0.0428	0.94	0.93	-2.4487	2.4487	
3511429	SR	0.75	0.44	-0.5025	0.0482	1.05	1.09			
3511433	SR	0.97	0.21	-3.4208	0.1298	0.98	1.07			
3511439	SR	0.79	0.47	-0.5779	0.0488	0.87	0.72			
3512616	SR	0.44	0.35	1.2809	0.0422	1.14	1.22			
3512625	SR	0.88	0.34	-1.6381	0.0646	0.97	1.04			
3512714	SR	0.91	0.24	-1.9727	0.0726	1.05	1.22			
3512649	BCR	0.27	0.49	2.3175	0.0476	0.86	0.78			
3563989	BCR	0.34	0.48	1.6549	0.0285	1.29	1.56	0.7655	-0.7655	
3511458	SR	0.92	0.33	-1.7042	0.0656	0.84	0.75			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3511467	SR	0.85	0.41	-0.9093	0.0524	0.8	0.65			
3512627	SR	0.88	0.36	-1.3981	0.0598	0.94	0.85			
3511470	SR	0.81	0.42	-0.6898	0.0499	0.9	0.82			
3511479	SR	0.51	0.43	0.6218	0.0422	1.09	1.13			
3511504	SR	0.90	0.26	-1.255	0.0574	0.75	0.83			
3511513	SR	0.85	0.37	-1.1293	0.0554	0.97	0.9			
3511521	SR	0.67	0.46	0.2895	0.0433	0.94	0.87			
3556476	BCR	0.49	0.53	1.0216	0.0421	0.92	0.91			
3563990	BCR	0.46	0.64	1.2214	0.0272	0.95	0.91	0.5363	-0.5363	
3511563	SR	0.62	0.39	0.376	0.0431	1.04	1.01			
3511258	ECR	0.81	0.41	-1.0768	0.0552	0.97	0.87			
3563991	ECR	0.49	0.56	0.6008	0.0331	0.95	0.94	-3.6557	0.5929	3.0628
3511266	SR	0.71	0.44	0.0148	0.0444	0.95	0.86			
3511320	SR	0.91	0.34	-1.4191	0.06	0.71	0.64			
3512595	SR	0.79	0.39	-0.6828	0.0498	0.99	0.94			
3511483	BCR	0.38	0.54	1.7333	0.0434	0.84	0.77			
3563992	BCR	0.34	0.58	1.9616	0.0336	0.93	0.92	-1.2852	1.2852	
3511499	SR	0.63	0.52	0.1746	0.0436	0.95	0.93			
3511330	SR	0.63	0.33	0.6342	0.0422	1.16	1.18			
3511269	SR	0.81	0.39	-1.0845	0.0548	1.1	1.09			
3511566	SR	0.66	0.41	0.1548	0.0437	1.01	1.03			
3511455	BCR	0.79	0.58	-0.7457	0.0509	0.78	0.61			
3563993	BCR	0.67	0.55	0.1392	0.0297	1.03	1.2	-0.1147	0.1147	
3511442	SR	0.61	0.49	0.5383	0.0423	0.94	0.93			
3512710	SR	0.59	0.41	0.5954	0.0423	1.05	1.09			
3512687	SR	0.52	0.40	0.9241	0.0419	1.07	1.1			
3512628	SR	0.77	0.36	-0.5862	0.049	1.02	1.15			
3511448	SR	0.76	0.40	-0.6839	0.0499	1.09	1.14			

**Table D.6 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 5 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2105953	SR	0.71	0.56	-0.0727	0.0465	0.83	0.78			
2105954	SR	0.78	0.31	-0.6503	0.0513	1.08	1.27			
2105975	SR	0.51	0.56	0.9019	0.0443	0.86	0.82			
2105978	SR	0.39	0.46	1.3673	0.0462	0.93	0.91			
3512527	SR	0.63	0.58	-0.05	0.0463	0.96	0.88			
3512528	SR	0.87	0.39	-1.1721	0.0582	0.89	0.69			
3512606	SR	0.65	0.32	0.3045	0.0445	1.14	1.24			
3511216	SR	0.68	0.25	0.203	0.0449	1.18	1.3			
3511246	SR	0.79	0.44	-0.331	0.0483	0.83	0.72			
3512529	SR	0.56	0.24	0.4459	0.0442	1.31	1.45			
3512702	SR	0.53	0.35	0.8431	0.0433	1.13	1.24			
3511307	SR	0.41	0.34	1.5483	0.044	1.13	1.22			
3511312	SR	0.40	0.37	1.5795	0.0442	1.1	1.21			
3511336	BCR	0.33	0.47	1.8944	0.0462	0.93	0.89			
3563987	BCR	0.34	0.60	1.9609	0.0341	0.89	0.85	-1.0144	1.0144	
3512534	SR	0.69	0.38	0.0331	0.046	1.04	1.05			
3511345	SR	0.92	0.30	-1.6886	0.0686	0.7	0.59			
3511348	SR	0.56	0.40	0.8118	0.0437	1.05	1.09			
3512540	SR	0.57	0.44	0.4738	0.0444	1.08	1.14			
3511371	SR	0.54	0.24	0.8516	0.0437	1.27	1.39			
3512543	SR	0.72	0.30	-0.342	0.0483	1.2	1.53			
3512546	SR	0.84	0.36	-1.0402	0.0561	0.97	0.93			
3512638	SR	0.63	0.43	0.2606	0.0447	1.05	1.11			
3512553	SR	0.59	0.48	0.4855	0.0441	0.97	0.95			
3512618	BCR	0.45	0.55	1.2891	0.0439	0.84	0.8			
3563988	BCR	0.53	0.46	0.6654	0.0441	1.1	1.09	-2.4487	2.4487	
3511439	SR	0.78	0.47	-0.5779	0.0506	0.94	0.79			
3511410	SR	0.70	0.43	-0.0507	0.0464	1.01	1.01			
3511396	SR	0.85	0.38	-1.1516	0.0579	1.02	0.91			
3512612	SR	0.38	0.24	1.6747	0.0448	1.28	1.49			
3512696	SR	0.87	0.31	-1.4768	0.0645	0.97	0.92			
3512691	SR	0.52	0.34	1.0014	0.044	1.16	1.25			
3512649	BCR	0.29	0.51	2.3175	0.0497	0.88	0.8			
3563989	BCR	0.36	0.49	1.6549	0.0299	1.25	1.45	0.7655	-0.7655	
3512578	SR	0.88	0.37	-1.362	0.0614	0.84	0.79			
3511467	SR	0.86	0.39	-0.9093	0.0543	0.84	0.75			
3512605	SR	0.94	0.32	-2.076	0.078	0.91	0.61			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3511470	SR	0.82	0.39	-0.6898	0.0517	0.88	0.84			
3511479	SR	0.58	0.44	0.6218	0.0436	1	0.99			
3511504	SR	0.89	0.22	-1.255	0.0596	0.97	1.29			
3511513	SR	0.86	0.38	-1.1293	0.0577	0.9	0.9			
3511521	SR	0.69	0.46	0.2895	0.0447	0.88	0.78			
3556476	BCR	0.51	0.53	1.0216	0.0435	0.85	0.81			
3563990	BCR	0.47	0.65	1.2214	0.0281	0.93	0.84	0.5363	-0.5363	
3511563	SR	0.64	0.41	0.376	0.0446	1.04	0.99			
3512530	ECR	0.64	0.38	0.3293	0.045	1.06	1.07			
3563999	ECR	0.45	0.66	1.1973	0.028	0.87	0.88	-2.0598	0.5889	1.4709
3511266	SR	0.70	0.42	0.0148	0.0459	1	0.96			
3511320	SR	0.93	0.30	-1.4191	0.0626	0.63	0.58			
3512595	SR	0.77	0.36	-0.6828	0.0516	1.12	1.17			
3511483	BCR	0.38	0.54	1.7333	0.0448	0.89	0.82			
3563992	BCR	0.35	0.57	1.9616	0.0346	0.96	0.93	-1.2852	1.2852	
3511499	SR	0.64	0.52	0.1746	0.0451	0.92	0.86			
3511330	SR	0.63	0.34	0.6342	0.0436	1.07	1.06			
3511269	SR	0.81	0.39	-1.0845	0.057	1.18	1.2			
3512637	SR	0.80	0.28	-0.6947	0.0519	1.1	1.29			
3512559	BCR	0.84	0.31	-1.0868	0.0576	1.02	1.03			
3564001	BCR	0.59	0.38	-0.2633	0.047	1.07	1.08	-2.9179	2.9179	
3511442	SR	0.61	0.47	0.5383	0.0438	0.92	0.93			
3512648	SR	0.48	0.46	1.2138	0.0434	0.98	0.99			
3512688	SR	0.42	0.27	1.42	0.0438	1.24	1.4			
3511631	SR	0.76	0.40	-0.3862	0.0489	0.97	1.01			
3511448	SR	0.80	0.37	-0.6839	0.0517	1.01	1.1			

**Table D.7 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 6 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2111062	SR	0.68	0.52	-0.2183	0.0444	0.89	0.79			
2111067	SR	0.80	0.39	-1.1522	0.0519	0.99	0.85			
2111069	SR	0.60	0.27	0.1761	0.043	1.2	1.32			
3516240	SR	0.56	0.53	0.2409	0.0426	0.91	0.91			
3516241	SR	0.84	0.39	-1.4702	0.0558	1.03	0.9			
3516243	SR	0.69	0.38	-0.2844	0.0446	1.06	0.98			
3516242	SR	0.38	0.36	1.2969	0.0432	1.1	1.2			
3516912	SR	0.54	0.46	0.5174	0.0423	0.99	0.98			
3516248	SR	0.75	0.44	-0.7278	0.0476	1	0.91			
3516247	SR	0.55	0.60	0.3674	0.0424	0.83	0.76			
3516249	SR	0.67	0.41	-0.4091	0.0452	1.04	1.14			
3516452	ECR	0.64	0.56	-0.1166	0.0444	0.88	0.88			
3564002	ECR	0.47	0.66	0.8847	0.027	0.94	0.94	-1.8229	0.1381	1.6849
3516255	SR	0.70	0.37	-0.4703	0.0459	1.08	1.16			
3516256	SR	0.60	0.38	0.135	0.0429	1.08	1.13			
3516257	SR	0.83	0.36	-1.2053	0.0522	1.01	1.12			
3516258	SR	0.54	0.36	0.3254	0.0425	1.12	1.17			
3516279	SR	0.73	0.54	-0.6642	0.0471	0.88	0.75			
3516280	SR	0.50	0.30	0.6666	0.0424	1.18	1.25			
3516281	SR	0.44	0.46	0.8563	0.0425	1	1.03			
3516283	SR	0.43	0.47	0.9203	0.0426	0.97	1.02			
3516285	SR	0.54	0.43	0.3104	0.043	1.05	1.04			
3516290	SR	0.64	0.44	-0.1396	0.0448	0.99	0.99			
3516291	SR	0.47	0.32	0.6406	0.0426	1.19	1.27			
3516298	SR	0.29	0.49	1.7544	0.0459	0.87	0.96			
3516573	SR	0.67	0.43	-0.3209	0.0456	0.96	0.97			
3516301	SR	0.67	0.51	-0.2182	0.0451	0.9	0.83			
3516302	SR	0.69	0.43	-0.4092	0.0452	1.05	1.1			
3516303	SR	0.53	0.46	0.658	0.0422	0.99	1.01			
3516305	SR	0.68	0.39	-0.2581	0.0444	1.06	1.03			
3516307	SR	0.61	0.54	0.2577	0.0427	0.88	0.81			
3516310	SR	0.69	0.38	-0.3503	0.045	1.02	1.05			
3517013	BCR	0.35	0.56	1.4674	0.0442	0.83	0.79			
3564004	BCR	0.57	0.64	0.0865	0.0366	0.79	0.78	-1.7954	1.7954	
3516313	SR	0.83	0.34	-1.3362	0.0538	1.01	1.3			
3516318	SR	0.88	0.44	-1.8302	0.0617	0.95	0.7			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3516327	BCR	0.44	0.32	0.963	0.0428	1.22	1.29			
3564005	BCR	0.59	0.61	0.0487	0.0322	0.91	0.9	-0.9977	0.9977	
3517000	SR	0.51	0.42	0.6588	0.0426	1.05	1.06			
3517010	SR	0.48	0.33	0.8496	0.0422	1.15	1.23			
3516328	SR	0.75	0.45	-0.7001	0.0472	0.96	1.04			
3516293	SR	0.45	0.39	1.0083	0.0424	1.1	1.18			
3516330	SR	0.79	0.49	-0.3114	0.0447	0.77	0.69			
3516331	SR	0.41	0.36	1.1378	0.0427	1.14	1.22			
3516352	SR	0.77	0.46	-0.8335	0.0483	0.95	0.85			
3516353	SR	0.58	0.34	0.0893	0.0431	1.16	1.24			
3516354	SR	0.72	0.52	-0.7843	0.048	0.97	0.86			
3516355	SR	0.66	0.52	-0.1849	0.044	0.94	0.88			
3516627	BCR	0.52	0.54	0.4728	0.0434	0.93	0.9			
3564006	BCR	0.42	0.61	1.265	0.0375	0.9	0.89	-1.8927	1.8927	
3516284	BCR	0.52	0.56	0.4969	0.0438	0.89	0.81			
3564007	BCR	0.42	0.60	0.9985	0.0311	0.99	0.97	-0.6994	0.6994	
3516351	SR	0.51	0.51	0.4777	0.0422	0.94	0.93			
3516332	SR	0.51	0.28	0.5885	0.0421	1.19	1.29			
3516329	SR	0.62	0.47	0.5144	0.0421	0.96	0.94			
3516295	SR	0.65	0.34	0.1004	0.043	1.08	1.19			
3516333	BCR	0.60	0.66	0.1031	0.0431	0.75	0.66			
3564008	BCR	0.61	0.71	0.1124	0.0298	0.77	0.74	-0.4274	0.4274	
3516326	BCR	0.77	0.51	-0.8501	0.049	0.89	1.01			
3564009	BCR	0.58	0.35	-0.0229	0.0362	1.32	1.37	-1.7436	1.7436	
3516320	SR	0.90	0.35	-1.6189	0.0579	0.74	0.7			
3516323	SR	0.67	0.44	-0.0894	0.044	1.01	0.96			

**Table D.8 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 6 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2111062	SR	0.68	0.52	-0.2183	0.0441	0.88	0.77			
2111067	SR	0.81	0.39	-1.1522	0.0521	0.94	0.83			
2111069	SR	0.60	0.28	0.1761	0.0426	1.18	1.22			
3516240	SR	0.55	0.53	0.2409	0.0422	0.91	0.87			
3516429	SR	0.92	0.24	-2.1599	0.0697	0.93	1.12			
3516242	SR	0.39	0.36	1.2969	0.0426	1.08	1.18			
3516912	SR	0.54	0.46	0.5174	0.0419	0.97	0.96			
3516243	SR	0.69	0.38	-0.2844	0.0443	1.03	0.95			
3516247	SR	0.56	0.60	0.3674	0.0419	0.83	0.77			
3516248	SR	0.75	0.44	-0.7278	0.0474	1	0.94			
3516451	SR	0.74	0.45	-0.7288	0.0474	0.94	0.88			
3517004	ECR	0.87	0.43	-1.7238	0.061	0.87	0.7			
3564010	ECR	0.58	0.61	0.2493	0.0258	1.01	1.04	-1.6097	0.1701	1.4396
3516255	SR	0.72	0.37	-0.4703	0.0456	0.99	1			
3516256	SR	0.61	0.38	0.135	0.0425	1.08	1.12			
3516280	SR	0.51	0.31	0.6666	0.0417	1.13	1.17			
3516453	SR	0.76	0.51	-0.816	0.0482	0.87	0.74			
3516454	SR	0.80	0.44	-1.1295	0.0515	0.92	0.89			
3516455	SR	0.49	0.49	0.5348	0.0418	0.98	0.95			
3517002	SR	0.74	0.41	-0.7729	0.048	0.99	1.01			
3516517	SR	0.32	0.38	1.4277	0.0433	0.98	1.01			
3516559	SR	0.84	0.39	-1.4432	0.056	0.98	1.03			
3516565	SR	0.44	0.47	0.8786	0.0418	0.96	1.01			
3516571	SR	0.35	0.30	1.3093	0.0429	1.07	1.22			
3516291	SR	0.46	0.33	0.6406	0.0419	1.14	1.2			
3516573	SR	0.69	0.42	-0.3209	0.0448	0.94	0.95			
3516301	SR	0.69	0.52	-0.2182	0.0443	0.8	0.71			
3516302	SR	0.69	0.42	-0.4092	0.045	1.01	1.07			
3516303	SR	0.53	0.47	0.658	0.0417	0.96	0.96			
3516594	SR	0.80	0.48	-1.0547	0.0506	0.87	0.73			
3516313	SR	0.83	0.33	-1.3362	0.0542	1	1.19			
3516613	SR	0.55	0.31	0.4071	0.042	1.18	1.24			
3517013	BCR	0.36	0.56	1.4674	0.0436	0.83	0.79			
3564004	BCR	0.56	0.64	0.0865	0.0364	0.81	0.8	-1.7954	1.7954	
3516305	SR	0.68	0.39	-0.2581	0.0442	0.98	0.92			
3516320	SR	0.92	0.33	-1.6189	0.0586	0.61	0.49			



Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3516327	BCR	0.42	0.31	0.963	0.0422	1.18	1.25			
3564005	BCR	0.59	0.60	0.0487	0.0319	0.96	0.95	-0.9977	0.9977	
3517000	SR	0.49	0.43	0.6588	0.0421	1.02	1.02			
3516907	SR	0.61	0.28	0.1598	0.0424	1.21	1.25			
3516328	SR	0.74	0.41	-0.7001	0.0472	0.99	1.02			
3516293	SR	0.46	0.37	1.0083	0.042	1.1	1.16			
3516618	SR	0.34	0.08	1.3357	0.0427	1.36	1.61			
3516621	SR	0.71	0.25	-1.2026	0.0524	1.67	2.75			
3516623	SR	0.74	0.32	-0.7259	0.0474	1.17	1.44			
3516624	SR	0.23	0.20	1.9065	0.0457	1.11	1.51			
3516625	SR	0.84	0.46	-1.2475	0.053	0.8	0.56			
3516354	SR	0.72	0.51	-0.7843	0.0479	0.9	0.76			
3516627	BCR	0.52	0.52	0.4728	0.0424	0.96	0.93			
3564006	BCR	0.41	0.60	1.265	0.0372	0.82	0.82	-1.8927	1.8927	
3516284	BCR	0.53	0.55	0.4969	0.0429	0.86	0.79			
3564007	BCR	0.43	0.60	0.9985	0.0305	0.94	0.92	-0.6994	0.6994	
3516332	SR	0.55	0.29	0.5885	0.0418	1.22	1.3			
3516351	SR	0.51	0.51	0.4777	0.0419	0.92	0.89			
3516329	SR	0.65	0.46	0.5144	0.0417	0.94	0.92			
3516295	SR	0.65	0.32	0.1004	0.0425	1.1	1.18			
3516622	BCR	0.42	0.64	1.0504	0.0423	0.73	0.66			
3564011	BCR	0.49	0.70	0.6015	0.0278	0.81	0.74	-0.0073	0.0073	
3516616	BCR	0.40	0.58	1.1174	0.0426	0.85	0.79			
3564012	BCR	0.49	0.50	0.5414	0.037	1.04	1.04	-1.8777	1.8777	
3516318	SR	0.84	0.47	-1.8302	0.0625	1.07	0.84			
3516323	SR	0.64	0.41	-0.0894	0.044	0.98	0.94			

**Table D.9 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 7 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2111486	SR	0.37	0.43	0.9205	0.0455	1.09	1.23			
3517744	BCR	0.35	0.47	0.9733	0.0466	1.11	1.11			
3564018	BCR	0.24	0.53	1.8283	0.0369	1.18	1.18	-0.8810	0.8810	
3517604	SR	0.32	0.48	1.0539	0.0458	1.05	1.04			
3517601	SR	0.45	0.52	0.4455	0.0439	1.01	1.02			
3517609	SR	0.50	0.50	0.1508	0.0435	1.03	1.03			
3517613	SR	0.62	0.59	-0.642	0.0445	0.87	0.78			
3517616	SR	0.55	0.52	-0.1398	0.0435	0.97	0.98			
3517634	SR	0.63	0.59	-0.4706	0.0439	0.82	0.75			
3517642	SR	0.42	0.61	0.3982	0.0437	0.83	0.78			
3517638	SR	0.69	0.51	-1.1551	0.0467	0.95	0.9			
3517647	SR	0.65	0.43	-0.6621	0.0445	1.05	1.03			
3517643	SR	0.66	0.32	-0.6035	0.0443	1.17	1.41			
3517650	SR	0.60	0.52	-0.4683	0.0439	0.93	0.88			
3517652	SR	0.66	0.48	-0.6359	0.0445	0.98	0.92			
3547473	SR	0.77	0.44	-1.1243	0.0466	0.86	0.73			
3517663	SR	0.27	0.40	1.5825	0.0488	1.14	1.39			
3517665	SR	0.35	0.40	0.9745	0.0456	1.11	1.34			
3517667	SR	0.57	0.48	-0.5147	0.0441	1.04	1.27			
3517670	ECR	0.30	0.57	1.3231	0.0489	0.97	0.89			
3564019	ECR	0.15	0.60	2.8181	0.0362	1	0.94	-1.6936	-0.1462	1.8398
3517675	SPR	0.68	0.52	-1.1204	0.0477	0.88	0.92			
3555857	SPR	0.36	0.62	0.9196	0.0466	0.8	0.73			
3517681	SPR	0.56	0.64	-0.2862	0.0446	0.78	0.7			
3517683	SPR	0.46	0.65	0.2733	0.0447	0.8	0.73			
3517678	SR	0.88	0.36	-2.682	0.0674	0.92	0.65			
3517710	SR	0.61	0.55	-0.6119	0.0451	0.91	0.86			
3517742	SR	0.50	0.51	0.0227	0.0442	1.03	1.12			
3517687	SR	0.56	0.51	-0.0583	0.0434	1.01	1.01			
3517692	SR	0.79	0.31	-1.4991	0.0494	1.05	1.38			
3517694	SR	0.73	0.56	-1.2172	0.0472	0.8	0.61			
3517673	ECR	0.65	0.39	-0.8144	0.046	1.12	1.47			
3564020	ECR	0.40	0.48	0.8436	0.0406	1.13	1.13	-4.4403	0.7733	3.6670
3517757	SPR	0.35	0.48	1.088	0.0464	1.07	1.2			
3517704	SPR	0.43	0.51	0.4293	0.045	1.04	1.05			
3517759	SPR	0.43	0.63	0.5501	0.0449	0.84	0.78			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3517719	BCR	0.26	0.50	1.5471	0.0503	0.99	0.93			
3564021	BCR	0.41	0.52	0.7817	0.0451	0.97	0.97	-2.6186	2.6186	
3517709	SR	0.64	0.53	-0.7302	0.0453	0.94	1			
3517712	SR	0.45	0.41	0.5663	0.0448	1.19	1.38			
3517714	SR	0.54	0.62	0.0092	0.0442	0.83	0.75			
3517716	SR	0.61	0.37	-0.4333	0.045	1.22	1.18			
3517718	SR	0.61	0.39	-0.2963	0.0444	1.12	1.19			
3517721	SR	0.42	0.49	0.5231	0.0449	1	1.02			
3517723	SR	0.39	0.16	0.6126	0.0453	1.56	1.88			
3555858	SR	0.39	0.43	0.6673	0.0457	1.19	1.36			
3547477	SR	0.49	0.57	0.068	0.0449	0.92	0.87			
3517725	BCR	0.26	0.59	1.6208	0.0495	0.81	0.69			
3564022	BCR	0.40	0.68	0.6682	0.0319	0.92	0.87	-0.6977	0.6977	
3517730	SPR	0.58	0.50	-0.3199	0.044	0.99	1.04			
3517732	SPR	0.31	0.56	1.3822	0.0477	0.91	0.77			
3517656	SR	0.63	0.40	-0.4094	0.0438	1.13	1.1			
3517736	SR	0.51	0.50	0.079	0.0434	1.03	1.05			
3517818	BCR	0.33	0.63	1.1456	0.0469	0.82	0.7			
3564023	BCR	0.38	0.62	1.1416	0.0404	0.85	0.84	-2.2500	2.2500	
3517876	SPR	0.14	0.43	2.7529	0.0615	0.92	0.97			
3547482	ECR	0.17	0.55	2.3028	0.0556	0.79	0.51			
3564024	ECR	0.35	0.72	1.1035	0.0281	0.87	0.85	-1.5185	-0.4265	1.9449
3517779	SPR	0.64	0.45	-0.7021	0.045	1.03	1.14			
3517697	SR	0.37	0.32	1.2314	0.0467	1.3	1.75			
3517733	SPR	0.53	0.61	-0.037	0.0445	0.85	0.78			
3555859	SR	0.74	0.43	-1.4603	0.0492	1.04	1.23			

**Table D.10 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 7 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2111486	SR	0.37	0.41	0.9205	0.0445	1.08	1.3			
3517706	BCR	0.47	0.48	0.2566	0.0443	1.06	1.12			
3564025	BCR	0.28	0.58	1.4706	0.0343	1.14	1.09	-0.8554	0.8554	
3517613	SR	0.62	0.58	-0.642	0.0447	0.91	0.83			
3555861	SR	0.72	0.49	-1.1968	0.0478	0.95	0.88			
3517604	SR	0.32	0.45	1.0539	0.0448	1.04	1.14			
3517602	SR	0.45	0.46	0.7735	0.044	1.08	1.26			
3517638	SR	0.69	0.53	-1.1551	0.0475	1	0.98			
3517679	SR	0.49	0.22	0.2781	0.0432	1.4	1.61			
3517609	SR	0.49	0.47	0.1508	0.0433	1.05	1.09			
3517643	SR	0.66	0.33	-0.6035	0.0445	1.15	1.43			
3517740	SR	0.53	0.58	-0.0121	0.0431	0.87	0.81			
3517631	SR	0.71	0.42	-1.1518	0.0474	1.07	1.3			
3517634	SR	0.62	0.58	-0.4706	0.0441	0.87	0.78			
3517665	SR	0.34	0.41	0.9745	0.0446	1.04	1.25			
3517635	SR	0.67	0.55	-0.9569	0.0462	0.86	0.8			
3517615	SR	0.68	0.44	-0.7793	0.0454	1	0.91			
3517637	SR	0.74	0.43	-1.1275	0.0473	1.01	1.07			
3517639	SR	0.28	0.40	1.4497	0.0469	1.04	1.3			
3517670	ECR	0.29	0.55	1.3231	0.0476	0.92	0.82			
3564019	ECR	0.16	0.59	2.8181	0.0354	1.11	1.03	-1.6936	-0.1462	1.8398
3517675	SPR	0.69	0.53	-1.1204	0.0482	0.94	0.94			
3555864	SPR	0.22	0.52	1.8439	0.0514	0.91	0.83			
3517683	SPR	0.45	0.62	0.2733	0.044	0.88	0.86			
3517645	SPR	0.69	0.53	-1.1974	0.0493	0.93	0.89			
3517741	SR	0.91	0.31	-3.1184	0.0804	0.93	1.03			
3517812	SR	0.54	0.47	-0.115	0.044	1.01	1.02			
3547535	SR	0.76	0.44	-1.6395	0.0528	0.99	0.84			
3517687	SR	0.57	0.50	-0.0583	0.0431	1	0.97			
3517692	SR	0.79	0.33	-1.4991	0.0504	1.04	1.28			
3517694	SR	0.75	0.57	-1.2172	0.0479	0.75	0.57			
3517648	ECR	0.63	0.43	-0.6275	0.0453	1.09	1.28			
3564027	ECR	0.58	0.62	-0.3188	0.0295	1	1.05	-0.9499	-1.4821	2.4320
3517695	SPR	0.35	0.57	0.9921	0.0454	0.92	0.9			
3517729	SPR	0.68	0.59	-1.0032	0.047	0.8	0.89			
3517757	SPR	0.33	0.48	1.088	0.0454	0.95	1.04			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3517693	BCR	0.16	0.46	2.4839	0.0573	0.89	0.71			
3564028	BCR	0.45	0.55	0.4116	0.0353	1.11	1.11	-1.5038	1.5038	
3517709	SR	0.66	0.54	-0.7302	0.0455	0.89	0.86			
3517712	SR	0.45	0.40	0.5663	0.0441	1.11	1.27			
3517714	SR	0.56	0.62	0.0092	0.0437	0.83	0.78			
3517716	SR	0.63	0.38	-0.4333	0.0448	1.14	1.09			
3517662	SR	0.47	0.33	0.3081	0.0438	1.35	1.51			
3517721	SR	0.44	0.49	0.5231	0.0441	1.01	1.02			
3517664	SR	0.80	0.44	-1.621	0.0527	0.8	0.64			
3517752	SR	0.62	0.50	-0.5723	0.0453	0.99	0.99			
3517885	SR	0.35	0.45	1.0861	0.0458	1.05	1.23			
3517666	BCR	0.27	0.58	1.6118	0.0482	0.81	0.67			
3564029	BCR	0.40	0.67	0.7029	0.0307	0.95	0.89	-0.5095	0.5095	
3517668	SPR	0.34	0.54	1.1331	0.0456	0.91	0.81			
3517671	SPR	0.34	0.65	1.0884	0.0456	0.75	0.62			
3517650	SR	0.60	0.52	-0.4683	0.0441	0.95	0.93			
3517652	SR	0.67	0.47	-0.6359	0.0447	0.97	0.87			
3517715	BCR	0.81	0.50	-1.8006	0.0541	0.85	0.79			
3564030	BCR	0.50	0.46	0.1441	0.0483	0.99	0.97	-2.9105	2.9105	
3517758	SPR	0.24	0.49	1.7915	0.0495	0.96	0.85			
3547487	ECR	0.77	0.54	-1.5658	0.0518	0.82	0.7			
3564031	ECR	0.31	0.61	2.1233	0.038	0.9	0.89	-3.8495	0.2592	3.5903
3555865	SPR	0.34	0.57	1.0579	0.0457	0.9	0.89			
3517718	SR	0.64	0.35	-0.2963	0.0435	1.21	1.3			
3517756	SPR	0.44	0.39	0.4675	0.0435	1.18	1.24			
3555859	SR	0.76	0.44	-1.4603	0.0499	0.97	0.98			

**Table D.11 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 8 Form A**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2107347	SR	0.34	0.42	0.8135	0.0451	1.1	1.29			
2107359	SR	0.59	0.20	-0.9648	0.0461	1.27	1.77			
2107361	SR	0.47	0.31	-0.2102	0.0446	1.17	1.3			
3514015	SR	0.23	0.30	1.4965	0.0495	1.14	1.28			
3514014	SR	0.56	0.40	-0.2177	0.0424	1.1	1.1			
3514016	SR	0.75	0.37	-1.3613	0.0462	0.99	0.97			
3514046	SR	0.52	0.48	-0.1452	0.0425	0.99	0.96			
3514013	BCR	0.44	0.67	0.3616	0.0438	0.76	0.69			
3564107	BCR	0.64	0.64	-1.107	0.0357	0.83	0.83	-1.4410	1.4410	
3547550	SR	0.57	0.27	-0.4694	0.0426	1.23	1.42			
3514056	SR	0.79	0.33	-1.9767	0.052	1.02	1.33			
3514053	SR	0.71	0.41	-1.2003	0.0452	1.01	1.1			
3514058	SR	0.30	0.47	1.0306	0.0461	0.97	1.07			
3514059	SR	0.63	0.45	-0.5815	0.0428	1	0.96			
3514062	SR	0.41	0.58	0.5139	0.0438	0.86	0.85			
3514702	ECR	0.28	0.53	1.2761	0.0486	0.94	0.89			
3564108	ECR	0.34	0.63	0.6901	0.0257	1.34	1.3	-0.7491	0.5272	0.2219
3514064	SPR	0.14	0.46	2.7466	0.0666	0.97	0.76			
3514276	SPR	0.45	0.68	0.2809	0.0437	0.72	0.64			
3514127	SPR	0.22	0.57	1.6861	0.0518	0.86	0.65			
3514125	SPR	0.60	0.50	-0.6461	0.044	0.93	0.98			
3514121	SR	0.69	0.41	-1.0563	0.0448	1	1.08			
3514139	SR	0.73	0.37	-1.3743	0.0462	1	1.11			
3514073	SR	0.55	0.45	-0.4061	0.0425	1.06	1.07			
3514074	SR	0.42	0.30	0.3257	0.0435	1.24	1.33			
3514075	SR	0.63	0.39	-0.6275	0.0428	1.11	1.11			
3514078	ECR	0.22	0.59	1.6578	0.052	0.78	0.61			
3564109	ECR	0.31	0.71	0.9387	0.0276	0.92	0.89	-1.3082	0.3860	0.9222
3514611	SPR	0.65	0.44	-0.9362	0.0444	1	1.04			
3514083	SPR	0.24	0.56	1.4236	0.0522	0.86	0.79			
3514092	SR	0.42	0.34	0.2379	0.0432	1.19	1.28			
3514102	SR	0.62	0.48	-0.4851	0.0432	0.93	1			
3514095	SR	0.31	0.49	1.2102	0.0475	1.03	1.19			
3514093	SR	0.33	0.36	0.8718	0.0457	1.2	1.43			
3514107	SR	0.12	0.28	2.3547	0.0598	1.02	1.35			
3514103	SR	0.60	0.39	-0.533	0.0433	1.13	1.2			

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3514608	SR	0.41	0.56	0.3422	0.044	0.89	0.88			
3514287	SR	0.62	0.42	-0.8039	0.0441	1.01	1.12			
3514267	BCR	0.35	0.55	0.8169	0.0454	0.92	0.83			
3564110	BCR	0.62	0.64	-0.9309	0.0354	0.82	0.81	-1.4936	1.4936	
3514113	SPR	0.65	0.45	-0.8134	0.0436	0.95	1.13			
3514275	SPR	0.72	0.40	-1.375	0.0468	0.97	1.31			
3514117	BCR	0.32	0.67	0.9736	0.0475	0.73	0.61			
3564111	BCR	0.39	0.68	0.4284	0.0328	0.86	0.86	-0.8203	0.8203	
3514279	SPR	0.21	0.59	1.6979	0.0517	0.78	0.59			
3514131	SPR	0.39	0.55	0.5831	0.0443	0.91	0.85			
3514057	SR	0.65	0.56	-0.938	0.0439	0.87	0.75			
3514607	ECR	0.26	0.69	1.2953	0.0492	0.68	0.53			
3564112	ECR	0.24	0.73	1.2629	0.0275	0.84	0.68	0.1082	-0.8532	0.7450
3514055	SR	0.57	0.42	-0.2581	0.0424	1.06	1.12			
3514052	SR	0.50	0.31	-0.1085	0.0425	1.28	1.32			
3514118	BCR	0.09	0.32	2.8471	0.0676	1.01	1.04			
3564113	BCR	0.40	0.51	1.0451	0.0438	0.91	0.89	-2.7281	2.7281	
3514291	SR	0.73	0.39	-1.4001	0.0465	0.97	1.28			
3514606	SR	0.69	0.27	-1.106	0.0448	1.2	1.57			
3514076	SR	0.46	0.49	0.1649	0.0429	1.03	1.05			
3514100	SR	0.75	0.37	-1.0918	0.0447	0.96	0.94			
3514080	SPR	0.52	0.62	-0.1513	0.0431	0.81	0.77			
3514079	SPR	0.31	0.58	1.2068	0.048	0.86	0.83			
3514669	BCR	0.51	0.60	-0.1522	0.0438	0.85	0.83			
3564114	BCR	0.63	0.61	-0.8897	0.0315	0.93	0.99	-0.4608	0.4608	
3514710	SR	0.53	0.39	-0.1424	0.0428	1.15	1.22			

**Table D.12 The 2007 MSA- Mathematics Classical and IRT Item Parameters: Grade 8 Form F**

Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
2107347	SR	0.34	0.42	0.8135	0.0447	1.04	1.11			
2107359	SR	0.59	0.21	-0.9648	0.0466	1.23	1.6			
2107361	SR	0.47	0.30	-0.2102	0.045	1.15	1.29			
3514015	SR	0.22	0.29	1.4965	0.0488	1.15	1.33			
3514014	SR	0.56	0.39	-0.2177	0.0422	1.09	1.09			
3514016	SR	0.77	0.37	-1.3613	0.0465	0.95	0.98			
3514055	SR	0.58	0.39	-0.2581	0.0422	1.07	1.14			
3514147	BCR	0.38	0.59	0.673	0.0447	0.85	0.77			
3564115	BCR	0.33	0.62	0.7108	0.03	1.07	1.02	0.4113	-0.4113	
3514052	SR	0.51	0.28	-0.1085	0.0422	1.24	1.28			
3514058	SR	0.30	0.46	1.0306	0.0455	0.99	1.08			
3514062	SR	0.42	0.57	0.5139	0.0433	0.88	0.86			
3514059	SR	0.63	0.43	-0.5815	0.0429	1.02	1.04			
3514156	SR	0.73	0.45	-1.4579	0.0474	0.99	0.95			
3514056	SR	0.75	0.36	-1.9767	0.0529	1.42	1.83			
3514283	ECR	0.34	0.62	0.8146	0.0452	0.85	0.74			
3564116	ECR	0.49	0.68	-0.2444	0.0279	0.99	0.97	-2.2962	1.2817	1.0145
3514159	SPR	0.62	0.45	-0.6287	0.0433	0.98	1.11			
3514161	SPR	0.19	0.54	1.9454	0.0536	0.85	0.68			
3514162	SPR	0.37	0.60	0.6672	0.0446	0.82	0.75			
3514163	SPR	0.52	0.60	-0.1901	0.043	0.85	0.82			
3514122	SR	0.60	0.49	-0.5576	0.0432	0.96	0.89			
3514092	SR	0.42	0.33	0.2379	0.0427	1.16	1.21			
3514075	SR	0.64	0.39	-0.6275	0.043	1.09	1.06			
3514073	SR	0.54	0.45	-0.4061	0.0424	1.02	1			
3514076	SR	0.48	0.46	0.1649	0.0425	1.02	1.01			
3514164	ECR	0.55	0.56	-0.4257	0.0435	0.89	0.96			
3564117	ECR	0.45	0.60	0.1001	0.0295	1.19	1.19	-2.4484	0.5623	1.8861
3514090	SPR	0.63	0.37	-0.7807	0.0438	1.07	1.24			
3514281	SPR	0.21	0.44	1.7603	0.0524	0.95	0.92			
3514173	SR	0.49	0.34	0.0215	0.0428	1.16	1.2			
3514095	SR	0.29	0.48	1.2102	0.0473	0.96	1.05			
3514174	SR	0.58	0.48	0.1391	0.043	1.06	1.05			
3514100	SR	0.69	0.35	-1.0918	0.0459	1.03	1.11			
3514138	SR	0.58	0.49	-0.4768	0.0437	0.96	0.88			
3514213	SR	0.63	0.47	-0.6097	0.0439	0.9	0.9			



Item CID	Item Type	P-Value	Point-Biserial	Rasch Difficulty	SE	MS. Infit	MS. Outfit	Step 0-1	Step 1-2	Step 2-3
3514103	SR	0.58	0.36	-0.533	0.0438	1.1	1.15			
3547555	SR	0.51	0.51	-0.5164	0.044	0.94	0.9			
3514108	BCR	0.13	0.36	2.4365	0.0604	1	1.01			
3564118	BCR	0.23	0.51	2.5497	0.0419	1	0.99	-2.3938	2.3938	
3514263	SPR	0.51	0.44	-0.1362	0.0424	1.04	1.1			
3514111	SPR	0.42	0.62	0.3986	0.0433	0.81	0.75			
3514117	BCR	0.32	0.66	0.9736	0.047	0.75	0.65			
3564111	BCR	0.40	0.67	0.4284	0.0326	0.88	0.88	-0.8203	0.8203	
3514708	SPR	0.57	0.30	-0.3665	0.0431	1.22	1.31			
3514114	SPR	0.41	0.50	0.4361	0.0433	0.99	1			
3514046	SR	0.52	0.48	-0.1452	0.0423	0.99	0.94			
3514152	ECR	0.33	0.55	0.8591	0.0461	0.9	0.88			
3564119	ECR	0.34	0.70	0.5971	0.0254	1	0.99	-0.6076	0.3356	0.2720
3547550	SR	0.64	0.19	-0.4694	0.0425	1.27	1.56			
3547551	SR	0.85	0.33	-2.2204	0.0566	0.95	1.03			
3514266	BCR	0.29	0.62	1.2135	0.0474	0.8	0.68			
3564120	BCR	0.49	0.66	-0.0476	0.034	0.87	0.87	-1.3415	1.3415	
3547547	SR	0.54	0.55	-0.2056	0.0425	0.87	0.8			
3514288	SR	0.58	0.59	-0.4203	0.0425	0.82	0.73			
3514074	SR	0.41	0.32	0.3257	0.043	1.23	1.35			
3514102	SR	0.64	0.49	-0.4851	0.0426	0.91	0.91			
3514083	SPR	0.26	0.58	1.4236	0.0514	0.85	0.75			
3514611	SPR	0.62	0.45	-0.9362	0.0447	1.05	1.12			
3514133	BCR	0.37	0.57	0.6858	0.0454	0.92	0.89			
3564121	BCR	0.49	0.62	-0.165	0.0385	0.89	0.89	-1.8706	1.8706	
3547536	SR	0.49	0.44	-0.0487	0.0427	1.05	1.06			