

# 2011 Grade 7 Math Item Analysis Multiple Choice Questions

## MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	87	.0	.0	.0
*	17	.0	.0	.1
1	3502	1.7	1.7	1.7
2	1123	.5	.5	2.3
3	3502	1.7	1.7	4.0
D	199088	96.0	96.0	100.0
Total	207319	100.0	100.0	

## MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	118	.1	.1	.1
*	16	.0	.0	.1
1	40649	19.6	19.6	19.7
2	10701	5.2	5.2	24.8
4	5034	2.4	2.4	27.3
C	150801	72.7	72.7	100.0
Total	207319	100.0	100.0	

## MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	299	.1	.1	.1
*	43	.0	.0	.2
1	8054	3.9	3.9	4.0
2	56652	27.3	27.3	31.4
3	77636	37.4	37.4	68.8
D	64635	31.2	31.2	100.0
Total	207319	100.0	100.0	

## MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	101	.0	.0	.0
*	27	.0	.0	.1
1	4879	2.4	2.4	2.4
3	12855	6.2	6.2	8.6
4	8416	4.1	4.1	12.7
B	181041	87.3	87.3	100.0
Total	207319	100.0	100.0	

**MATH Question 5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	187	.1	.1	.1
*	62	.0	.0	.1
1	12513	6.0	6.0	6.2
3	63892	30.8	30.8	37.0
4	14686	7.1	7.1	44.1
B	115979	55.9	55.9	100.0
Total	207319	100.0	100.0	

**MATH Question 6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	260	.1	.1	.1
*	39	.0	.0	.1
1	35791	17.3	17.3	17.4
2	16401	7.9	7.9	25.3
3	22220	10.7	10.7	36.0
D	132608	64.0	64.0	100.0
Total	207319	100.0	100.0	

**MATH Question 7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	393	.2	.2	.2
*	28	.0	.0	.2
1	35038	16.9	16.9	17.1
2	24777	12.0	12.0	29.1
3	61720	29.8	29.8	58.8
D	85363	41.2	41.2	100.0
Total	207319	100.0	100.0	

**MATH Question 8**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	213	.1	.1	.1
*	36	.0	.0	.1
1	22948	11.1	11.1	11.2
3	68042	32.8	32.8	44.0
4	34125	16.5	16.5	60.5
B	81955	39.5	39.5	100.0
Total	207319	100.0	100.0	

**MATH Question 9**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	135	.1	.1	.1
*	51	.0	.0	.1
2	7075	3.4	3.4	3.5
3	2644	1.3	1.3	4.8
4	15885	7.7	7.7	12.4
A	181529	87.6	87.6	100.0
Total	207319	100.0	100.0	

**MATH Question 10**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	186	.1	.1	.1
*	42	.0	.0	.1
1	2969	1.4	1.4	1.5
3	16580	8.0	8.0	9.5
4	21904	10.6	10.6	20.1
B	165638	79.9	79.9	100.0
Total	207319	100.0	100.0	

**MATH Question 11**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	139	.1	.1	.1
*	48	.0	.0	.1
1	6028	2.9	2.9	3.0
2	37303	18.0	18.0	21.0
3	14297	6.9	6.9	27.9
D	149504	72.1	72.1	100.0
Total	207319	100.0	100.0	

**MATH Question 12**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	154	.1	.1	.1
*	39	.0	.0	.1
1	4448	2.1	2.1	2.2
2	24682	11.9	11.9	14.1
3	24819	12.0	12.0	26.1
D	153177	73.9	73.9	100.0
Total	207319	100.0	100.0	

**MATH Question 13**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1093	.5	.5	.5
*	31	.0	.0	.5
1	51732	25.0	25.0	25.5
2	36715	17.7	17.7	43.2
4	43639	21.0	21.0	64.3
C	74109	35.7	35.7	100.0
Total	207319	100.0	100.0	

**MATH Question 14**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	133	.1	.1	.1
*	31	.0	.0	.1
1	6119	3.0	3.0	3.0
2	33169	16.0	16.0	19.0
4	15264	7.4	7.4	26.4
C	152603	73.6	73.6	100.0
Total	207319	100.0	100.0	

**MATH Question 15**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	217	.1	.1	.1
*	47	.0	.0	.1
1	28070	13.5	13.5	13.7
2	16038	7.7	7.7	21.4
3	33092	16.0	16.0	37.4
D	129855	62.6	62.6	100.0
Total	207319	100.0	100.0	

**MATH Question 16**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	322	.2	.2	.2
*	41	.0	.0	.2
1	44476	21.5	21.5	21.6
2	49647	23.9	23.9	45.6
4	11500	5.5	5.5	51.1
C	101333	48.9	48.9	100.0
Total	207319	100.0	100.0	

**MATH Question 17**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	184	.1	.1	.1
*	35	.0	.0	.1
1	14050	6.8	6.8	6.9
3	14367	6.9	6.9	13.8
4	19732	9.5	9.5	23.3
B	158951	76.7	76.7	100.0
Total	207319	100.0	100.0	

**MATH Question 18**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	258	.1	.1	.1
*	42	.0	.0	.1
1	23360	11.3	11.3	11.4
3	15958	7.7	7.7	19.1
4	33209	16.0	16.0	35.1
B	134492	64.9	64.9	100.0
Total	207319	100.0	100.0	

**MATH Question 19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	205	.1	.1	.1
*	32	.0	.0	.1
2	29889	14.4	14.4	14.5
3	43993	21.2	21.2	35.8
4	5834	2.8	2.8	38.6
A	127366	61.4	61.4	100.0
Total	207319	100.0	100.0	

**MATH Question 20**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	372	.2	.2	.2
*	47	.0	.0	.2
2	15562	7.5	7.5	7.7
3	19253	9.3	9.3	17.0
4	18779	9.1	9.1	26.1
A	153306	73.9	73.9	100.0
Total	207319	100.0	100.0	

**MATH Question 21**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	268	.1	.1	.1
*	45	.0	.0	.2
1	63168	30.5	30.5	30.6
2	11115	5.4	5.4	36.0
4	27473	13.3	13.3	49.2
C	105250	50.8	50.8	100.0
Total	207319	100.0	100.0	

**MATH Question 22**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	131	.1	.1	.1
*	31	.0	.0	.1
1	827	.4	.4	.5
2	1863	.9	.9	1.4
4	1202	.6	.6	2.0
C	203265	98.0	98.0	100.0
Total	207319	100.0	100.0	

**MATH Question 23**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	270	.1	.1	.1
*	40	.0	.0	.1
1	8116	3.9	3.9	4.1
3	27785	13.4	13.4	17.5
4	17864	8.6	8.6	26.1
B	153244	73.9	73.9	100.0
Total	207319	100.0	100.0	

**MATH Question 24**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	261	.1	.1	.1
*	43	.0	.0	.1
1	15549	7.5	7.5	7.6
2	9719	4.7	4.7	12.3
3	8190	4.0	4.0	16.3
D	173557	83.7	83.7	100.0
Total	207319	100.0	100.0	

**MATH Question 25**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	333	.2	.2	.2
*	27	.0	.0	.2
1	24499	11.8	11.8	12.0
3	23984	11.6	11.6	23.6
4	8987	4.3	4.3	27.9
B	149489	72.1	72.1	100.0
Total	207319	100.0	100.0	

**MATH Question 26**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	355	.2	.2	.2
*	51	.0	.0	.2
1	132154	63.7	63.7	63.9
2	18456	8.9	8.9	72.8
4	34080	16.4	16.4	89.3
C	22223	10.7	10.7	100.0
Total	207319	100.0	100.0	

**MATH Question 27**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	604	.3	.3	.3
*	30	.0	.0	.3
1	31337	15.1	15.1	15.4
3	35830	17.3	17.3	32.7
4	44085	21.3	21.3	54.0
B	95433	46.0	46.0	100.0
Total	207319	100.0	100.0	

**MATH Question 28**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	221	.1	.1	.1
*	36	.0	.0	.1
1	9605	4.6	4.6	4.8
2	24782	12.0	12.0	16.7
4	23821	11.5	11.5	28.2
C	148854	71.8	71.8	100.0
Total	207319	100.0	100.0	

**MATH Question 29**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	243	.1	.1	.1
*	57	.0	.0	.1
1	19422	9.4	9.4	9.5
2	9480	4.6	4.6	14.1
3	12363	6.0	6.0	20.0
D	165754	80.0	80.0	100.0
Total	207319	100.0	100.0	

**MATH Question 30**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	272	.1	.1	.1
*	45	.0	.0	.2
1	64339	31.0	31.0	31.2
3	7004	3.4	3.4	34.6
4	51361	24.8	24.8	59.3
B	84298	40.7	40.7	100.0
Total	207319	100.0	100.0	

**MATH Question 31**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	317	.2	.2	.2
*	46	.0	.0	.2
2	52110	25.1	25.1	25.3
3	16456	7.9	7.9	33.2
4	17781	8.6	8.6	41.8
A	120609	58.2	58.2	100.0
Total	207319	100.0	100.0	

**MATH Question 32**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	224	.1	.1	.1
*	40	.0	.0	.1
1	13230	6.4	6.4	6.5
2	14965	7.2	7.2	13.7
4	8649	4.2	4.2	17.9
C	170211	82.1	82.1	100.0
Total	207319	100.0	100.0	



**MATH Question 33**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	542	.3	.3	.3
*	67	.0	.0	.3
1	35238	17.0	17.0	17.3
2	51277	24.7	24.7	42.0
4	43269	20.9	20.9	62.9
C	76926	37.1	37.1	100.0
Total	207319	100.0	100.0	

**MATH Question 34**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	498	.2	.2	.2
*	42	.0	.0	.3
1	26731	12.9	12.9	13.2
2	31330	15.1	15.1	28.3
4	28040	13.5	13.5	41.8
C	120678	58.2	58.2	100.0
Total	207319	100.0	100.0	

**MATH Question 35**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	365	.2	.2	.2
*	46	.0	.0	.2
1	19200	9.3	9.3	9.5
3	38663	18.6	18.6	28.1
4	8558	4.1	4.1	32.2
B	140487	67.8	67.8	100.0
Total	207319	100.0	100.0	

**MATH Question 36**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	394	.2	.2	.2
*	50	.0	.0	.2
1	16707	8.1	8.1	8.3
2	17165	8.3	8.3	16.6
4	24513	11.8	11.8	28.4
C	148490	71.6	71.6	100.0
Total	207319	100.0	100.0	

**MATH Question 37**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	370	.2	.2	.2
*	54	.0	.0	.2
1	27365	13.2	13.2	13.4
2	43665	21.1	21.1	34.5
3	16288	7.9	7.9	42.3
D	119577	57.7	57.7	100.0
Total	207319	100.0	100.0	

**MATH Question 38**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	437	.2	.2	.2
*	47	.0	.0	.2
1	47153	22.7	22.7	23.0
2	19401	9.4	9.4	32.3
3	50527	24.4	24.4	56.7
D	89754	43.3	43.3	100.0
Total	207319	100.0	100.0	

**MATH Question 39**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	464	.2	.2	.2
*	60	.0	.0	.3
1	12345	6.0	6.0	6.2
2	24914	12.0	12.0	18.2
3	26361	12.7	12.7	30.9
D	143175	69.1	69.1	100.0
Total	207319	100.0	100.0	

**MATH Question 40**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	676	.3	.3	.3
*	54	.0	.0	.4
1	60221	29.0	29.0	29.4
2	17793	8.6	8.6	38.0
4	10805	5.2	5.2	43.2
C	117770	56.8	56.8	100.0
Total	207319	100.0	100.0	

**MATH Question 41**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	502	.2	.2	.2
*	53	.0	.0	.3
1	18702	9.0	9.0	9.3
2	13675	6.6	6.6	15.9
4	18405	8.9	8.9	24.8
C	155982	75.2	75.2	100.0
Total	207319	100.0	100.0	

**MATH Question 42**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	574	.3	.3	.3
*	69	.0	.0	.3
1	14892	7.2	7.2	7.5
2	42459	20.5	20.5	28.0
3	18390	8.9	8.9	36.8
D	130935	63.2	63.2	100.0
Total	207319	100.0	100.0	

**MATH Question 43**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	604	.3	.3	.3
*	60	.0	.0	.3
2	22115	10.7	10.7	11.0
3	55999	27.0	27.0	38.0
4	9421	4.5	4.5	42.5
A	119120	57.5	57.5	100.0
Total	207319	100.0	100.0	

**MATH Question 44**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	644	.3	.3	.3
*	40	.0	.0	.3
1	9678	4.7	4.7	5.0
2	55638	26.8	26.8	31.8
3	11668	5.6	5.6	37.5
D	129651	62.5	62.5	100.0
Total	207319	100.0	100.0	

**MATH Question 45**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	852	.4	.4	.4
*	36	.0	.0	.4
1	55312	26.7	26.7	27.1
2	30291	14.6	14.6	41.7
3	43197	20.8	20.8	62.6
D	77631	37.4	37.4	100.0
Total	207319	100.0	100.0	

**2011 Grade 7 Math Constructed Response Items**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
MATH Question 46	206282	0	2	1.10	.817
MATH Question 47	203313	0	2	1.01	.911
MATH Question 48	206209	0	2	1.09	.759
MATH Question 49	200539	0	2	1.01	.950
MATH Question 50	206557	0	3	2.27	1.063
MATH Question 51	206114	0	3	2.16	1.017
MATH Question 52	204637	0	3	1.38	1.290
MATH Question 53	202907	0	3	1.70	1.060
Valid N (listwise)	192868				

**2011 Grade 7 Math SPIs**

**Descriptive Statistics**

	N	Mean		Std.
	Statistic	Statistic	Std. Error	Statistic
MATH Standard 1 Performance Index	207315	57.66	.049	22.180
MATH Standard 2 Performance Index	207315	57.86	.053	24.237
MATH Standard 3 Performance Index	207315	58.32	.054	24.682
MATH Standard 4 Performance Index	207315	62.37	.046	21.025
MATH Standard 5 Performance Index	207315	68.12	.042	18.954
Valid N (listwise)	207315			