

## 2009 Grade 7 Math Item Analysis- Multiple Choice Items

### MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	148	.1	.1	.1
*	19	.0	.0	.1
2	5350	2.6	2.6	2.7
3	7412	3.6	3.6	6.2
4	8821	4.2	4.2	10.5
A	186070	89.5	89.5	100.0
Total	207820	100.0	100.0	

### MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	75	.0	.0	.0
*	14	.0	.0	.0
1	5031	2.4	2.4	2.5
2	19830	9.5	9.5	12.0
4	1724	.8	.8	12.8
C	181146	87.2	87.2	100.0
Total	207820	100.0	100.0	

### MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	277	.1	.1	.1
*	29	.0	.0	.1
1	10425	5.0	5.0	5.2
2	12031	5.8	5.8	11.0
4	20208	9.7	9.7	20.7
C	164850	79.3	79.3	100.0
Total	207820	100.0	100.0	

### MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	61	.0	.0	.0
*	24	.0	.0	.0
1	840	.4	.4	.4
2	2134	1.0	1.0	1.5
3	2476	1.2	1.2	2.7
D	202285	97.3	97.3	100.0
Total	207820	100.0	100.0	

**MATH Question 5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	109	.1	.1	.1
*	28	.0	.0	.1
1	3283	1.6	1.6	1.6
2	4454	2.1	2.1	3.8
4	38077	18.3	18.3	22.1
C	161869	77.9	77.9	100.0
Total	207820	100.0	100.0	

**MATH Question 6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	72	.0	.0	.0
*	36	.0	.0	.1
1	21844	10.5	10.5	10.6
2	25565	12.3	12.3	22.9
4	5892	2.8	2.8	25.7
C	154411	74.3	74.3	100.0
Total	207820	100.0	100.0	

**MATH Question 7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	201	.1	.1	.1
*	62	.0	.0	.1
1	10479	5.0	5.0	5.2
2	60240	29.0	29.0	34.2
3	9994	4.8	4.8	39.0
D	126844	61.0	61.0	100.0
Total	207820	100.0	100.0	

**MATH Question 8**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	145	.1	.1	.1
*	24	.0	.0	.1
1	12101	5.8	5.8	5.9
3	9959	4.8	4.8	10.7
4	14468	7.0	7.0	17.7
B	171123	82.3	82.3	100.0
Total	207820	100.0	100.0	

**MATH Question 9**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	77	.0	.0	.0
*	34	.0	.0	.1
2	3980	1.9	1.9	2.0
3	5141	2.5	2.5	4.4
4	5373	2.6	2.6	7.0
A	193215	93.0	93.0	100.0
Total	207820	100.0	100.0	

**MATH Question 10**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	213	.1	.1	.1
*	35	.0	.0	.1
1	6151	3.0	3.0	3.1
2	17020	8.2	8.2	11.3
3	42230	20.3	20.3	31.6
D	142171	68.4	68.4	100.0
Total	207820	100.0	100.0	

**MATH Question 11**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	83	.0	.0	.0
*	23	.0	.0	.1
1	3670	1.8	1.8	1.8
2	4328	2.1	2.1	3.9
4	38400	18.5	18.5	22.4
C	161316	77.6	77.6	100.0
Total	207820	100.0	100.0	

**MATH Question 12**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	118	.1	.1	.1
*	17	.0	.0	.1
1	10517	5.1	5.1	5.1
2	11372	5.5	5.5	10.6
4	3881	1.9	1.9	12.5
C	181915	87.5	87.5	100.0
Total	207820	100.0	100.0	

**MATH Question 13**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	552	.3	.3	.3
*	50	.0	.0	.3
1	31802	15.3	15.3	15.6
3	33496	16.1	16.1	31.7
4	32118	15.5	15.5	47.2
B	109802	52.8	52.8	100.0
Total	207820	100.0	100.0	

**MATH Question 14**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	169	.1	.1	.1
*	37	.0	.0	.1
1	51020	24.6	24.6	24.6
2	4970	2.4	2.4	27.0
3	19521	9.4	9.4	36.4
D	132103	63.6	63.6	100.0
Total	207820	100.0	100.0	

**MATH Question 15**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	109	.1	.1	.1
*	30	.0	.0	.1
1	2842	1.4	1.4	1.4
2	8965	4.3	4.3	5.7
4	6717	3.2	3.2	9.0
C	189157	91.0	91.0	100.0
Total	207820	100.0	100.0	

**MATH Question 16**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	380	.2	.2	.2
*	28	.0	.0	.2
1	10213	4.9	4.9	5.1
3	14895	7.2	7.2	12.3
4	8838	4.3	4.3	16.5
B	173466	83.5	83.5	100.0
Total	207820	100.0	100.0	

**MATH Question 17**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	120	.1	.1	.1
*	24	.0	.0	.1
1	8331	4.0	4.0	4.1
3	7004	3.4	3.4	7.4
4	4432	2.1	2.1	9.6
B	187909	90.4	90.4	100.0
Total	207820	100.0	100.0	

**MATH Question 18**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	166	.1	.1	.1
*	33	.0	.0	.1
1	7127	3.4	3.4	3.5
2	16727	8.0	8.0	11.6
4	13941	6.7	6.7	18.3
C	169826	81.7	81.7	100.0
Total	207820	100.0	100.0	

**MATH Question 19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	376	.2	.2	.2
*	31	.0	.0	.2
1	21736	10.5	10.5	10.7
3	25654	12.3	12.3	23.0
4	22232	10.7	10.7	33.7
B	137791	66.3	66.3	100.0
Total	207820	100.0	100.0	

**MATH Question 20**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	282	.1	.1	.1
*	29	.0	.0	.1
1	8874	4.3	4.3	4.4
2	58827	28.3	28.3	32.7
4	26145	12.6	12.6	45.3
C	113663	54.7	54.7	100.0
Total	207820	100.0	100.0	

**MATH Question 21**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	124	.1	.1	.1
*	95	.0	.0	.1
1	8746	4.2	4.2	4.3
2	7783	3.7	3.7	8.1
3	14895	7.2	7.2	15.2
D	176177	84.8	84.8	100.0
Total	207820	100.0	100.0	

**MATH Question 22**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	167	.1	.1	.1
*	36	.0	.0	.1
2	7764	3.7	3.7	3.8
3	26432	12.7	12.7	16.6
4	3660	1.8	1.8	18.3
A	169761	81.7	81.7	100.0
Total	207820	100.0	100.0	

**MATH Question 23**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	169	.1	.1	.1
*	45	.0	.0	.1
1	12637	6.1	6.1	6.2
3	10705	5.2	5.2	11.3
4	22051	10.6	10.6	21.9
B	162213	78.1	78.1	100.0
Total	207820	100.0	100.0	

**MATH Question 24**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	367	.2	.2	.2
*	65	.0	.0	.2
1	9602	4.6	4.6	4.8
2	51411	24.7	24.7	29.6
3	38021	18.3	18.3	47.9
D	108354	52.1	52.1	100.0
Total	207820	100.0	100.0	

**MATH Question 25**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	272	.1	.1	.1
*	48	.0	.0	.2
2	50765	24.4	24.4	24.6
3	22768	11.0	11.0	35.5
4	22240	10.7	10.7	46.2
A	111727	53.8	53.8	100.0
Total	207820	100.0	100.0	

**MATH Question 26**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	255	.1	.1	.1
*	49	.0	.0	.1
1	21510	10.4	10.4	10.5
2	28391	13.7	13.7	24.2
4	8118	3.9	3.9	28.1
C	149497	71.9	71.9	100.0
Total	207820	100.0	100.0	

**MATH Question 27**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	284	.1	.1	.1
*	42	.0	.0	.2
1	35029	16.9	16.9	17.0
2	17758	8.5	8.5	25.6
4	4463	2.1	2.1	27.7
C	150244	72.3	72.3	100.0
Total	207820	100.0	100.0	

**MATH Question 28**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	272	.1	.1	.1
*	56	.0	.0	.2
1	24853	12.0	12.0	12.1
2	19916	9.6	9.6	21.7
3	25147	12.1	12.1	33.8
D	137576	66.2	66.2	100.0
Total	207820	100.0	100.0	

**MATH Question 29**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	268	.1	.1	.1
*	32	.0	.0	.1
1	61376	29.5	29.5	29.7
3	6005	2.9	2.9	32.6
4	5263	2.5	2.5	35.1
B	134876	64.9	64.9	100.0
Total	207820	100.0	100.0	

**MATH Question 30**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	314	.2	.2	.2
*	23	.0	.0	.2
1	10416	5.0	5.0	5.2
3	3414	1.6	1.6	6.8
4	9565	4.6	4.6	11.4
B	184088	88.6	88.6	100.0
Total	207820	100.0	100.0	

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**MATH Question 31**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	28414	13.7	13.7	13.7
1	23139	11.1	11.2	24.9
2	155712	74.9	75.1	100.0
Total	207265	99.7	100.0	
Missing System	555	.3		
Total	207820	100.0		

**MATH Question 32**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	70576	34.0	34.2	34.2
1	60747	29.2	29.4	63.6
2	75051	36.1	36.4	100.0
Total	206374	99.3	100.0	
Missing System	1446	.7		
Total	207820	100.0		



**MATH Question 33**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	35719	17.2	17.3	17.3
	1	46067	22.2	22.2	39.5
	2	125264	60.3	60.5	100.0
	Total	207050	99.6	100.0	
Missing	System	770	.4		
Total		207820	100.0		

**MATH Question 34**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	78119	37.6	38.1	38.1
	1	61805	29.7	30.1	68.2
	2	65247	31.4	31.8	100.0
	Total	205171	98.7	100.0	
Missing	System	2649	1.3		
Total		207820	100.0		

**MATH Question 35**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	36673	17.6	17.7	17.7
	1	32306	15.5	15.6	33.3
	2	29663	14.3	14.3	47.6
	3	108698	52.3	52.4	100.0
	Total	207340	99.8	100.0	
Missing	System	480	.2		
Total		207820	100.0		

**MATH Question 36**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	87014	41.9	42.0	42.0
	1	37126	17.9	17.9	59.9
	2	32439	15.6	15.7	75.6
	3	50494	24.3	24.4	100.0
	Total	207073	99.6	100.0	
Missing	System	747	.4		
Total		207820	100.0		

**MATH Question 37**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	55049	26.5	26.7	26.7
1	10187	4.9	4.9	31.6
2	24218	11.7	11.7	43.3
3	117043	56.3	56.7	100.0
Total	206497	99.4	100.0	
Missing System	1323	.6		
Total	207820	100.0		

**MATH Question 38**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	29604	14.2	14.3	14.3
1	10062	4.8	4.9	19.2
2	48713	23.4	23.6	42.7
3	118381	57.0	57.3	100.0
Total	206760	99.5	100.0	
Missing System	1060	.5		
Total	207820	100.0		

**Statistics**

	MATH Question 31	MATH Question 32	MATH Question 33	MATH Question 34	MATH Question 35
N Valid	207265	206374	207050	205171	207340
Missing	555	1446	770	2649	480
Mean	1.61	1.02	1.43	.94	2.01
Std. Deviation	.715	.840	.768	.834	1.178

**Statistics**

	MATH Question 36	MATH Question 37	MATH Question 38
N Valid	207073	206497	206760
Missing	747	1323	1060
Mean	1.22	1.98	2.24
Std. Deviation	1.226	1.297	1.067