

# 2009 Grade 5 Math Item Analysis- Multiple Choice

## MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	40	.0	.0	.0
*	24	.0	.0	.0
1	1324	.7	.7	.7
2	2243	1.1	1.1	1.8
3	10107	5.0	5.0	6.8
D	189139	93.2	93.2	100.0
Total	202877	100.0	100.0	

## MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	38	.0	.0	.0
*	27	.0	.0	.0
1	1842	.9	.9	.9
2	3368	1.7	1.7	2.6
4	4141	2.0	2.0	4.6
C	193461	95.4	95.4	100.0
Total	202877	100.0	100.0	

## MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	64	.0	.0	.0
*	72	.0	.0	.1
1	4285	2.1	2.1	2.2
2	8394	4.1	4.1	6.3
3	5492	2.7	2.7	9.0
D	184570	91.0	91.0	100.0
Total	202877	100.0	100.0	

## MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	72	.0	.0	.0
*	71	.0	.0	.1
2	21159	10.4	10.4	10.5
3	4599	2.3	2.3	12.8
4	4111	2.0	2.0	14.8
A	172865	85.2	85.2	100.0
Total	202877	100.0	100.0	

**MATH Question 5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	77	.0	.0	.0
*	81	.0	.0	.1
1	4304	2.1	2.1	2.2
2	10765	5.3	5.3	7.5
4	24822	12.2	12.2	19.7
C	162828	80.3	80.3	100.0
Total	202877	100.0	100.0	

**MATH Question 6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	81	.0	.0	.0
*	54	.0	.0	.1
1	3945	1.9	1.9	2.0
2	26582	13.1	13.1	15.1
3	2602	1.3	1.3	16.4
D	169613	83.6	83.6	100.0
Total	202877	100.0	100.0	

**MATH Question 7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	138	.1	.1	.1
*	73	.0	.0	.1
1	15537	7.7	7.7	7.8
2	12335	6.1	6.1	13.8
3	19064	9.4	9.4	23.2
D	155730	76.8	76.8	100.0
Total	202877	100.0	100.0	

**MATH Question 8**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	.0	.0	.0
*	50	.0	.0	.1
1	3514	1.7	1.7	1.8
3	8009	3.9	3.9	5.7
4	6270	3.1	3.1	8.8
B	184964	91.2	91.2	100.0
Total	202877	100.0	100.0	

**MATH Question 9**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	54	.0	.0	.0
*	48	.0	.0	.1
1	1893	.9	.9	1.0
2	6394	3.2	3.2	4.1
3	9217	4.5	4.5	8.7
D	185271	91.3	91.3	100.0
Total	202877	100.0	100.0	

**MATH Question 10**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	79	.0	.0	.0
*	65	.0	.0	.1
1	20790	10.2	10.2	10.3
2	31361	15.5	15.5	25.8
4	19580	9.7	9.7	35.4
C	131002	64.6	64.6	100.0
Total	202877	100.0	100.0	

**MATH Question 11**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	93	.0	.0	.0
*	56	.0	.0	.1
2	6557	3.2	3.2	3.3
3	18305	9.0	9.0	12.3
4	4080	2.0	2.0	14.3
A	173786	85.7	85.7	100.0
Total	202877	100.0	100.0	

**MATH Question 12**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	201	.1	.1	.1
*	56	.0	.0	.1
1	11713	5.8	5.8	5.9
2	17298	8.5	8.5	14.4
3	15369	7.6	7.6	22.0
D	158240	78.0	78.0	100.0
Total	202877	100.0	100.0	

**MATH Question 13**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	98	.0	.0	.0
*	67	.0	.0	.1
2	7456	3.7	3.7	3.8
3	6795	3.3	3.3	7.1
4	6550	3.2	3.2	10.3
A	181911	89.7	89.7	100.0
Total	202877	100.0	100.0	

**MATH Question 14**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	164	.1	.1	.1
*	78	.0	.0	.1
1	9356	4.6	4.6	4.7
2	22560	11.1	11.1	15.9
3	8866	4.4	4.4	20.2
D	161853	79.8	79.8	100.0
Total	202877	100.0	100.0	

**MATH Question 15**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	346	.2	.2	.2
*	59	.0	.0	.2
2	19312	9.5	9.5	9.7
3	20780	10.2	10.2	20.0
4	22638	11.2	11.2	31.1
A	139742	68.9	68.9	100.0
Total	202877	100.0	100.0	

**MATH Question 16**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	132	.1	.1	.1
*	67	.0	.0	.1
1	4738	2.3	2.3	2.4
2	8789	4.3	4.3	6.8
3	10108	5.0	5.0	11.7
D	179043	88.3	88.3	100.0
Total	202877	100.0	100.0	

**MATH Question 17**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	95	.0	.0	.0
*	57	.0	.0	.1
1	10468	5.2	5.2	5.2
2	4214	2.1	2.1	7.3
3	29103	14.3	14.3	21.7
D	158940	78.3	78.3	100.0
Total	202877	100.0	100.0	

**MATH Question 18**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	107	.1	.1	.1
*	40	.0	.0	.1
2	4090	2.0	2.0	2.1
3	49600	24.4	24.4	26.5
4	4005	2.0	2.0	28.5
A	145035	71.5	71.5	100.0
Total	202877	100.0	100.0	

**MATH Question 19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	148	.1	.1	.1
*	47	.0	.0	.1
1	11240	5.5	5.5	5.6
2	14194	7.0	7.0	12.6
4	12918	6.4	6.4	19.0
C	164330	81.0	81.0	100.0
Total	202877	100.0	100.0	

**MATH Question 20**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	224	.1	.1	.1
*	93	.0	.0	.2
2	20608	10.2	10.2	10.3
3	16024	7.9	7.9	18.2
4	18090	8.9	8.9	27.1
A	147838	72.9	72.9	100.0
Total	202877	100.0	100.0	

**MATH Question 21**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	198	.1	.1	.1
*	115	.1	.1	.2
1	5663	2.8	2.8	2.9
2	42795	21.1	21.1	24.0
3	12352	6.1	6.1	30.1
D	141754	69.9	69.9	100.0
Total	202877	100.0	100.0	

**MATH Question 22**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	266	.1	.1	.1
*	80	.0	.0	.2
2	4551	2.2	2.2	2.4
3	27490	13.6	13.6	16.0
4	37232	18.4	18.4	34.3
A	133258	65.7	65.7	100.0
Total	202877	100.0	100.0	

**MATH Question 23**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	507	.2	.2	.2
*	83	.0	.0	.3
1	12541	6.2	6.2	6.5
2	19957	9.8	9.8	16.3
4	23440	11.6	11.6	27.9
C	146349	72.1	72.1	100.0
Total	202877	100.0	100.0	

**MATH Question 24**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	311	.2	.2	.2
*	120	.1	.1	.2
1	4300	2.1	2.1	2.3
2	4420	2.2	2.2	4.5
3	25874	12.8	12.8	17.3
D	167852	82.7	82.7	100.0
Total	202877	100.0	100.0	

**MATH Question 25**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	614	.3	.3	.3
*	57	.0	.0	.3
1	22134	10.9	10.9	11.2
3	16392	8.1	8.1	19.3
4	18630	9.2	9.2	28.5
B	145050	71.5	71.5	100.0
Total	202877	100.0	100.0	

**MATH Question 26**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1296	.6	.6	.6
*	39	.0	.0	.7
2	15863	7.8	7.8	8.5
3	18608	9.2	9.2	17.6
4	11231	5.5	5.5	23.2
A	155840	76.8	76.8	100.0
Total	202877	100.0	100.0	

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**MATH Question 27**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	50433	24.9	24.9	24.9
1	24933	12.3	12.3	37.2
2	127184	62.7	62.8	100.0
Total	202550	99.8	100.0	
Missing System	327	.2		
Total	202877	100.0		

**MATH Question 28**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	25360	12.5	12.5	12.5
1	54722	27.0	27.0	39.5
2	122587	60.4	60.5	100.0
Total	202669	99.9	100.0	
Missing System	208	.1		
Total	202877	100.0		

**MATH Question 29**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	28747	14.2	14.2	14.2
	1	48353	23.8	23.9	38.1
	2	125528	61.9	61.9	100.0
	Total	202628	99.9	100.0	
Missing	System	249	.1		
Total		202877	100.0		

**MATH Question 30**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	13868	6.8	6.8	6.8
	1	21680	10.7	10.7	17.5
	2	167142	82.4	82.5	100.0
	Total	202690	99.9	100.0	
Missing	System	187	.1		
Total		202877	100.0		

**MATH Question 31**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	22658	11.2	11.2	11.2
	1	31776	15.7	15.7	26.9
	2	92471	45.6	45.6	72.5
	3	55709	27.5	27.5	100.0
	Total	202614	99.9	100.0	
Missing	System	263	.1		
Total		202877	100.0		

**MATH Question 32**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	21115	10.4	10.4	10.4
	1	87896	43.3	43.4	53.8
	2	69573	34.3	34.3	88.1
	3	24016	11.8	11.9	100.0
	Total	202600	99.9	100.0	
Missing	System	277	.1		
Total		202877	100.0		



**MATH Question 33**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	34915	17.2	17.2	17.2
	1	39942	19.7	19.7	37.0
	2	58938	29.1	29.1	66.1
	3	68762	33.9	33.9	100.0
	Total	202557	99.8	100.0	
Missing	System	320	.2		
Total		202877	100.0		

**MATH Question 34**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	17213	8.5	8.5	8.5
	1	36271	17.9	18.0	26.5
	2	18106	8.9	9.0	35.4
	3	130433	64.3	64.6	100.0
	Total	202023	99.6	100.0	
Missing	System	854	.4		
Total		202877	100.0		

**Statistics**

		MATH Question 27	MATH Question 28	MATH Question 29	MATH Question 30	MATH Question 31
N	Valid	202550	202669	202628	202690	202614
	Missing	327	208	249	187	263
Mean		1.38	1.48	1.48	1.76	1.89
Std. Deviation		.856	.707	.730	.567	.932

**Statistics**

		MATH Question 32	MATH Question 33	MATH Question 34
N	Valid	202600	202557	202023
	Missing	277	320	854
Mean		1.48	1.80	2.30
Std. Deviation		.834	1.089	1.039