

2009 Grade 4 Math Item Analysis- Multiple Choice

MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	68	.0	.0	.0
*	62	.0	.0	.1
1	14446	6.7	6.7	6.7
2	9990	4.6	4.6	11.3
4	7551	3.5	3.5	14.8
C	184926	85.2	85.2	100.0
Total	217043	100.0	100.0	

MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100	.0	.0	.0
*	58	.0	.0	.1
1	4562	2.1	2.1	2.2
3	5642	2.6	2.6	4.8
4	3749	1.7	1.7	6.5
B	202932	93.5	93.5	100.0
Total	217043	100.0	100.0	

MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	74	.0	.0	.0
*	75	.0	.0	.1
1	10097	4.7	4.7	4.7
2	3363	1.5	1.5	6.3
4	19122	8.8	8.8	15.1
C	184312	84.9	84.9	100.0
Total	217043	100.0	100.0	

MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100	.0	.0	.0
*	60	.0	.0	.1
1	4991	2.3	2.3	2.4
2	1491	.7	.7	3.1
3	2336	1.1	1.1	4.1
D	208065	95.9	95.9	100.0
Total	217043	100.0	100.0	

MATH Question 5

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	123	.1	.1	.1
*	64	.0	.0	.1
1	2968	1.4	1.4	1.5
2	6425	3.0	3.0	4.4
3	5134	2.4	2.4	6.8
D	202329	93.2	93.2	100.0
Total	217043	100.0	100.0	

MATH Question 6

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	92	.0	.0	.0
*	57	.0	.0	.1
1	15549	7.2	7.2	7.2
2	5752	2.7	2.7	9.9
4	2010	.9	.9	10.8
C	193583	89.2	89.2	100.0
Total	217043	100.0	100.0	

MATH Question 7

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	139	.1	.1	.1
*	99	.0	.0	.1
2	16438	7.6	7.6	7.7
3	9717	4.5	4.5	12.2
4	9953	4.6	4.6	16.7
A	180697	83.3	83.3	100.0
Total	217043	100.0	100.0	

MATH Question 8

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	124	.1	.1	.1
*	54	.0	.0	.1
1	12119	5.6	5.6	5.7
2	8284	3.8	3.8	9.5
4	5931	2.7	2.7	12.2
C	190531	87.8	87.8	100.0
Total	217043	100.0	100.0	

MATH Question 9

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	142	.1	.1	.1
*	61	.0	.0	.1
1	18832	8.7	8.7	8.8
2	6933	3.2	3.2	12.0
3	6711	3.1	3.1	15.1
D	184364	84.9	84.9	100.0
Total	217043	100.0	100.0	

MATH Question 10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	233	.1	.1	.1
*	59	.0	.0	.1
1	12379	5.7	5.7	5.8
2	13489	6.2	6.2	12.1
4	10258	4.7	4.7	16.8
C	180625	83.2	83.2	100.0
Total	217043	100.0	100.0	

MATH Question 11

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	107	.0	.0	.0
*	98	.0	.0	.1
1	7970	3.7	3.7	3.8
3	56284	25.9	25.9	29.7
4	19710	9.1	9.1	38.8
B	132874	61.2	61.2	100.0
Total	217043	100.0	100.0	

MATH Question 12

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	137	.1	.1	.1
*	107	.0	.0	.1
1	9427	4.3	4.3	4.5
2	21035	9.7	9.7	14.1
3	8389	3.9	3.9	18.0
D	177948	82.0	82.0	100.0
Total	217043	100.0	100.0	

MATH Question 13

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	178	.1	.1	.1
*	58	.0	.0	.1
1	29288	13.5	13.5	13.6
3	9052	4.2	4.2	17.8
4	2338	1.1	1.1	18.9
B	176129	81.1	81.1	100.0
Total	217043	100.0	100.0	

MATH Question 14

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	297	.1	.1	.1
*	66	.0	.0	.2
1	14802	6.8	6.8	7.0
2	29023	13.4	13.4	20.4
4	13088	6.0	6.0	26.4
C	159767	73.6	73.6	100.0
Total	217043	100.0	100.0	

MATH Question 15

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	195	.1	.1	.1
*	56	.0	.0	.1
1	21871	10.1	10.1	10.2
2	15603	7.2	7.2	17.4
4	11210	5.2	5.2	22.5
C	168108	77.5	77.5	100.0
Total	217043	100.0	100.0	

MATH Question 16

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	188	.1	.1	.1
*	51	.0	.0	.1
1	17692	8.2	8.2	8.3
3	6811	3.1	3.1	11.4
4	6335	2.9	2.9	14.3
B	185966	85.7	85.7	100.0
Total	217043	100.0	100.0	

MATH Question 17

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	209	.1	.1	.1
*	77	.0	.0	.1
1	14215	6.5	6.5	6.7
3	7364	3.4	3.4	10.1
4	8641	4.0	4.0	14.1
B	186537	85.9	85.9	100.0
Total	217043	100.0	100.0	

MATH Question 18

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	209	.1	.1	.1
*	114	.1	.1	.1
1	13988	6.4	6.4	6.6
2	6289	2.9	2.9	9.5
3	12437	5.7	5.7	15.2
D	184006	84.8	84.8	100.0
Total	217043	100.0	100.0	

MATH Question 19

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	292	.1	.1	.1
*	63	.0	.0	.2
1	11210	5.2	5.2	5.3
3	19164	8.8	8.8	14.2
4	24247	11.2	11.2	25.3
B	162067	74.7	74.7	100.0
Total	217043	100.0	100.0	

MATH Question 20

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	221	.1	.1	.1
*	66	.0	.0	.1
1	22606	10.4	10.4	10.5
3	27489	12.7	12.7	23.2
4	36414	16.8	16.8	40.0
B	130247	60.0	60.0	100.0
Total	217043	100.0	100.0	

MATH Question 21

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	265	.1	.1	.1
*	84	.0	.0	.2
2	9143	4.2	4.2	4.4
3	18300	8.4	8.4	12.8
4	7925	3.7	3.7	16.5
A	181326	83.5	83.5	100.0
Total	217043	100.0	100.0	

MATH Question 22

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	216	.1	.1	.1
*	160	.1	.1	.2
2	7291	3.4	3.4	3.5
3	10425	4.8	4.8	8.3
4	60653	27.9	27.9	36.3
A	138298	63.7	63.7	100.0
Total	217043	100.0	100.0	

MATH Question 23

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	283	.1	.1	.1
*	132	.1	.1	.2
1	27213	12.5	12.5	12.7
2	13742	6.3	6.3	19.1
3	47876	22.1	22.1	41.1
D	127797	58.9	58.9	100.0
Total	217043	100.0	100.0	

MATH Question 24

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	287	.1	.1	.1
*	62	.0	.0	.2
1	4474	2.1	2.1	2.2
2	6957	3.2	3.2	5.4
4	5140	2.4	2.4	7.8
C	200123	92.2	92.2	100.0
Total	217043	100.0	100.0	

MATH Question 25

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	378	.2	.2	.2
*	75	.0	.0	.2
2	10988	5.1	5.1	5.3
3	52808	24.3	24.3	29.6
4	5368	2.5	2.5	32.1
A	147426	67.9	67.9	100.0
Total	217043	100.0	100.0	

MATH Question 26

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	424	.2	.2	.2
*	74	.0	.0	.2
1	33665	15.5	15.5	15.7
3	6256	2.9	2.9	18.6
4	6823	3.1	3.1	21.8
B	169801	78.2	78.2	100.0
Total	217043	100.0	100.0	

MATH Question 27

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	514	.2	.2	.2
*	139	.1	.1	.3
1	47358	21.8	21.8	22.1
2	48978	22.6	22.6	44.7
3	22137	10.2	10.2	54.9
D	97917	45.1	45.1	100.0
Total	217043	100.0	100.0	

MATH Question 28

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	511	.2	.2	.2
*	74	.0	.0	.3
1	15078	6.9	6.9	7.2
2	6991	3.2	3.2	10.4
4	6870	3.2	3.2	13.6
C	187519	86.4	86.4	100.0
Total	217043	100.0	100.0	

MATH Question 29

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	831	.4	.4	.4
*	77	.0	.0	.4
1	8119	3.7	3.7	4.2
3	22827	10.5	10.5	14.7
4	55340	25.5	25.5	40.2
B	129849	59.8	59.8	100.0
Total	217043	100.0	100.0	

MATH Question 30

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1255	.6	.6	.6
*	63	.0	.0	.6
2	17788	8.2	8.2	8.8
3	26808	12.4	12.4	21.2
4	31130	14.3	14.3	35.5
A	139999	64.5	64.5	100.0
Total	217043	100.0	100.0	

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MATH Question 31

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	48739	22.5	22.5	22.5
1	39306	18.1	18.1	40.6
2	128838	59.4	59.4	100.0
Total	216883	99.9	100.0	
Missing System	160	.1		
Total	217043	100.0		

MATH Question 32

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	16739	7.7	7.7	7.7
1	36127	16.6	16.7	24.4
2	164031	75.6	75.6	100.0
Total	216897	99.9	100.0	
Missing System	146	.1		
Total	217043	100.0		

MATH Question 33

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	39101	18.0	18.0	18.0
	1	20641	9.5	9.5	27.6
	2	157020	72.3	72.4	100.0
	Total	216762	99.9	100.0	
Missing	System	281	.1		
Total		217043	100.0		

MATH Question 34

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	30832	14.2	14.2	14.2
	1	22941	10.6	10.6	24.8
	2	162720	75.0	75.2	100.0
	Total	216493	99.7	100.0	
Missing	System	550	.3		
Total		217043	100.0		

MATH Question 35

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	60175	27.7	27.8	27.8
	1	55041	25.4	25.4	53.2
	2	101361	46.7	46.8	100.0
	Total	216577	99.8	100.0	
Missing	System	466	.2		
Total		217043	100.0		

MATH Question 36

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	29217	13.5	13.5	13.5
	1	70436	32.5	32.5	46.0
	2	117185	54.0	54.0	100.0
	Total	216838	99.9	100.0	
Missing	System	205	.1		
Total		217043	100.0		

MATH Question 37

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	31531	14.5	14.6	14.6
	1	59179	27.3	27.3	41.9
	2	125989	58.0	58.1	100.0
	Total	216699	99.8	100.0	
Missing	System	344	.2		
Total		217043	100.0		

MATH Question 38

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25211	11.6	11.6	11.6
	1	44946	20.7	20.7	32.4
	2	61644	28.4	28.5	60.8
	3	84854	39.1	39.2	100.0
	Total	216655	99.8	100.0	
Missing	System	388	.2		
Total		217043	100.0		

MATH Question 39

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	13686	6.3	6.3	6.3
	1	23338	10.8	10.8	17.1
	2	119575	55.1	55.2	72.4
	3	59842	27.6	27.6	100.0
	Total	216441	99.7	100.0	
Missing	System	602	.3		
Total		217043	100.0		

MATH Question 40

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	19775	9.1	9.1	9.1
	1	28160	13.0	13.0	22.1
	2	168960	77.8	77.9	100.0
	Total	216895	99.9	100.0	
Missing	System	148	.1		
Total		217043	100.0		

MATH Question 41

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	30134	13.9	13.9	13.9
	1	56300	25.9	26.0	39.9
	2	130406	60.1	60.1	100.0
	Total	216840	99.9	100.0	
Missing	System	203	.1		
Total		217043	100.0		

MATH Question 42

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	31551	14.5	14.6	14.6
	1	32088	14.8	14.8	29.3
	2	153191	70.6	70.7	100.0
	Total	216830	99.9	100.0	
Missing	System	213	.1		
Total		217043	100.0		

MATH Question 43

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	9627	4.4	4.4	4.4
	1	37840	17.4	17.5	21.9
	2	169320	78.0	78.1	100.0
	Total	216787	99.9	100.0	
Missing	System	256	.1		
Total		217043	100.0		

MATH Question 44

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	65777	30.3	30.4	30.4
	1	30104	13.9	13.9	44.3
	2	120750	55.6	55.7	100.0
	Total	216631	99.8	100.0	
Missing	System	412	.2		
Total		217043	100.0		

MATH Question 45

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25524	11.8	11.8	11.8
	1	30903	14.2	14.3	26.1
	2	160165	73.8	73.9	100.0
	Total	216592	99.8	100.0	
Missing	System	451	.2		
Total		217043	100.0		

MATH Question 46

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5455	2.5	2.5	2.5
	1	42814	19.7	19.7	22.3
	2	168552	77.7	77.7	100.0
	Total	216821	99.9	100.0	
Missing	System	222	.1		
Total		217043	100.0		

MATH Question 47

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	10870	5.0	5.0	5.0
1	30432	14.0	14.0	19.1
2	25612	11.8	11.8	30.9
3	149853	69.0	69.1	100.0
Total	216767	99.9	100.0	
Missing System	276	.1		
Total	217043	100.0		

MATH Question 48

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	20856	9.6	9.6	9.6
1	15208	7.0	7.0	16.6
2	81109	37.4	37.4	54.0
3	99632	45.9	46.0	100.0
Total	216805	99.9	100.0	
Missing System	238	.1		
Total	217043	100.0		

Statistics

	MATH Question 31	MATH Question 32	MATH Question 33	MATH Question 34	MATH Question 35
N Valid	216883	216897	216762	216493	216577
Missing	160	146	281	550	466
Mean	1.37	1.68	1.54	1.61	1.19
Std. Deviation	.826	.610	.780	.723	.842

Statistics

	MATH Question 36	MATH Question 37	MATH Question 38	MATH Question 39	MATH Question 40
N Valid	216838	216699	216655	216441	216895
Missing	205	344	388	602	148
Mean	1.41	1.44	1.95	2.04	1.69
Std. Deviation	.715	.733	1.031	.797	.630

Statistics

	MATH Question 41	MATH Question 42	MATH Question 43	MATH Question 44	MATH Question 45
N Valid	216840	216830	216787	216631	216592
Missing	203	213	256	412	451
Mean	1.46	1.56	1.74	1.25	1.62
Std. Deviation	.726	.733	.532	.893	.686

Statistics

		MATH Question 46	MATH Question 47	MATH Question 48
N	Valid	216821	216767	216805
	Missing	222	276	238
Mean		1.75	2.45	2.20
Std. Deviation		.487	.911	.936