

# 2011 Grade 3 Math Item Analysis Multiple Choice Questions

## MATH Question 1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	66	.0	.0	.0
*	100	.0	.0	.1
1	2066	1.0	1.0	1.1
2	28664	14.0	14.0	15.1
3	7068	3.5	3.5	18.6
D	166512	81.4	81.4	100.0
Total	204476	100.0	100.0	

## MATH Question 2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	116	.1	.1	.1
*	83	.0	.0	.1
1	3022	1.5	1.5	1.6
2	6234	3.0	3.0	4.6
4	9455	4.6	4.6	9.2
C	185566	90.8	90.8	100.0
Total	204476	100.0	100.0	

## MATH Question 3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	177	.1	.1	.1
*	93	.0	.0	.1
1	8057	3.9	3.9	4.1
3	11955	5.8	5.8	9.9
4	12556	6.1	6.1	16.1
B	171638	83.9	83.9	100.0
Total	204476	100.0	100.0	

## MATH Question 4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	401	.2	.2	.2
*	88	.0	.0	.2
1	34823	17.0	17.0	17.3
3	11328	5.5	5.5	22.8
4	16733	8.2	8.2	31.0
B	141103	69.0	69.0	100.0
Total	204476	100.0	100.0	

**MATH Question 5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	156	.1	.1	.1
*	141	.1	.1	.1
2	10793	5.3	5.3	5.4
3	941	.5	.5	5.9
4	913	.4	.4	6.3
A	191532	93.7	93.7	100.0
Total	204476	100.0	100.0	

**MATH Question 6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	243	.1	.1	.1
*	145	.1	.1	.2
1	15877	7.8	7.8	8.0
3	13451	6.6	6.6	14.5
4	11896	5.8	5.8	20.4
B	162864	79.6	79.6	100.0
Total	204476	100.0	100.0	

**MATH Question 7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	158	.1	.1	.1
*	145	.1	.1	.1
1	1607	.8	.8	.9
2	1315	.6	.6	1.6
3	8891	4.3	4.3	5.9
D	192360	94.1	94.1	100.0
Total	204476	100.0	100.0	

**MATH Question 8**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	151	.1	.1	.1
*	130	.1	.1	.1
1	11601	5.7	5.7	5.8
2	8797	4.3	4.3	10.1
3	6145	3.0	3.0	13.1
D	177652	86.9	86.9	100.0
Total	204476	100.0	100.0	

**MATH Question 9**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	286	.1	.1	.1
*	110	.1	.1	.2
1	33933	16.6	16.6	16.8
2	38038	18.6	18.6	35.4
4	60633	29.7	29.7	65.0
C	71476	35.0	35.0	100.0
Total	204476	100.0	100.0	

**MATH Question 10**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	173	.1	.1	.1
*	73	.0	.0	.1
2	4549	2.2	2.2	2.3
3	9989	4.9	4.9	7.2
4	2411	1.2	1.2	8.4
A	187281	91.6	91.6	100.0
Total	204476	100.0	100.0	

**MATH Question 11**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	169	.1	.1	.1
*	59	.0	.0	.1
1	11782	5.8	5.8	5.9
3	27775	13.6	13.6	19.5
4	4922	2.4	2.4	21.9
B	159769	78.1	78.1	100.0
Total	204476	100.0	100.0	

**MATH Question 12**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	148	.1	.1	.1
*	67	.0	.0	.1
1	1349	.7	.7	.8
2	9266	4.5	4.5	5.3
4	2822	1.4	1.4	6.7
C	190824	93.3	93.3	100.0
Total	204476	100.0	100.0	

**MATH Question 13**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	181	.1	.1	.1
*	79	.0	.0	.1
1	4596	2.2	2.2	2.4
3	5633	2.8	2.8	5.1
4	7317	3.6	3.6	8.7
B	186670	91.3	91.3	100.0
Total	204476	100.0	100.0	

**MATH Question 14**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	218	.1	.1	.1
*	162	.1	.1	.2
2	4345	2.1	2.1	2.3
3	3471	1.7	1.7	4.0
4	8458	4.1	4.1	8.1
A	187822	91.9	91.9	100.0
Total	204476	100.0	100.0	

**MATH Question 15**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	323	.2	.2	.2
*	115	.1	.1	.2
1	69120	33.8	33.8	34.0
2	13106	6.4	6.4	40.4
4	14263	7.0	7.0	47.4
C	107549	52.6	52.6	100.0
Total	204476	100.0	100.0	

**MATH Question 16**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	256	.1	.1	.1
*	106	.1	.1	.2
1	16235	7.9	7.9	8.1
2	53074	26.0	26.0	34.1
3	47296	23.1	23.1	57.2
D	87509	42.8	42.8	100.0
Total	204476	100.0	100.0	

**MATH Question 17**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	215	.1	.1	.1
*	80	.0	.0	.1
1	14481	7.1	7.1	7.2
3	3754	1.8	1.8	9.1
4	8862	4.3	4.3	13.4
B	177084	86.6	86.6	100.0
Total	204476	100.0	100.0	

**MATH Question 18**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	386	.2	.2	.2
*	136	.1	.1	.3
1	7291	3.6	3.6	3.8
2	4634	2.3	2.3	6.1
4	44166	21.6	21.6	27.7
C	147863	72.3	72.3	100.0
Total	204476	100.0	100.0	

**MATH Question 19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	258	.1	.1	.1
*	129	.1	.1	.2
2	5414	2.6	2.6	2.8
3	12602	6.2	6.2	9.0
4	50780	24.8	24.8	33.8
A	135293	66.2	66.2	100.0
Total	204476	100.0	100.0	

**MATH Question 20**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	217	.1	.1	.1
*	56	.0	.0	.1
1	2970	1.5	1.5	1.6
2	9828	4.8	4.8	6.4
4	2140	1.0	1.0	7.4
C	189265	92.6	92.6	100.0
Total	204476	100.0	100.0	

**MATH Question 21**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	181	.1	.1	.1
*	69	.0	.0	.1
2	36136	17.7	17.7	17.8
3	6939	3.4	3.4	21.2
4	12923	6.3	6.3	27.5
A	148228	72.5	72.5	100.0
Total	204476	100.0	100.0	

**MATH Question 22**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	232	.1	.1	.1
*	91	.0	.0	.2
1	37995	18.6	18.6	18.7
3	28926	14.1	14.1	32.9
4	15645	7.7	7.7	40.5
B	121587	59.5	59.5	100.0
Total	204476	100.0	100.0	

**MATH Question 23**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	329	.2	.2	.2
*	73	.0	.0	.2
1	24082	11.8	11.8	12.0
2	6617	3.2	3.2	15.2
4	7002	3.4	3.4	18.6
C	166373	81.4	81.4	100.0
Total	204476	100.0	100.0	

**MATH Question 24**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	625	.3	.3	.3
*	125	.1	.1	.4
1	21140	10.3	10.3	10.7
2	26079	12.8	12.8	23.5
4	28185	13.8	13.8	37.2
C	128322	62.8	62.8	100.0
Total	204476	100.0	100.0	

**MATH Question 25**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	453	.2	.2	.2
*	204	.1	.1	.3
2	44186	21.6	21.6	21.9
3	6739	3.3	3.3	25.2
4	39733	19.4	19.4	44.7
A	113161	55.3	55.3	100.0
Total	204476	100.0	100.0	

**MATH Question 26**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	662	.3	.3	.3
*	223	.1	.1	.4
1	23770	11.6	11.6	12.1
2	7887	3.9	3.9	15.9
3	12369	6.0	6.0	22.0
D	159565	78.0	78.0	100.0
Total	204476	100.0	100.0	

**MATH Question 27**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	299	.1	.1	.1
*	68	.0	.0	.2
2	3234	1.6	1.6	1.8
3	2148	1.1	1.1	2.8
4	1962	1.0	1.0	3.8
A	196765	96.2	96.2	100.0
Total	204476	100.0	100.0	

**MATH Question 28**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	354	.2	.2	.2
*	105	.1	.1	.2
2	9033	4.4	4.4	4.6
3	7633	3.7	3.7	8.4
4	5214	2.5	2.5	10.9
A	182137	89.1	89.1	100.0
Total	204476	100.0	100.0	

**MATH Question 29**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	391	.2	.2	.2
*	109	.1	.1	.2
1	41033	20.1	20.1	20.3
3	36000	17.6	17.6	37.9
4	13696	6.7	6.7	44.6
B	113247	55.4	55.4	100.0
Total	204476	100.0	100.0	

**MATH Question 30**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	448	.2	.2	.2
*	71	.0	.0	.3
1	10439	5.1	5.1	5.4
2	26001	12.7	12.7	18.1
4	11349	5.6	5.6	23.6
C	156168	76.4	76.4	100.0
Total	204476	100.0	100.0	

**MATH Question 31**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	332	.2	.2	.2
*	66	.0	.0	.2
1	14163	6.9	6.9	7.1
2	12272	6.0	6.0	13.1
4	26274	12.8	12.8	26.0
C	151369	74.0	74.0	100.0
Total	204476	100.0	100.0	

**MATH Question 32**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	463	.2	.2	.2
*	138	.1	.1	.3
2	28903	14.1	14.1	14.4
3	31871	15.6	15.6	30.0
4	26306	12.9	12.9	42.9
A	116795	57.1	57.1	100.0
Total	204476	100.0	100.0	



**MATH Question 33**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	823	.4	.4	.4
*	206	.1	.1	.5
1	54087	26.5	26.5	27.0
3	33577	16.4	16.4	43.4
4	48477	23.7	23.7	67.1
B	67306	32.9	32.9	100.0
Total	204476	100.0	100.0	

**MATH Question 34**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	572	.3	.3	.3
*	206	.1	.1	.4
1	29622	14.5	14.5	14.9
2	18081	8.8	8.8	23.7
3	13441	6.6	6.6	30.3
D	142554	69.7	69.7	100.0
Total	204476	100.0	100.0	

**MATH Question 35**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	709	.3	.3	.3
*	149	.1	.1	.4
1	33246	16.3	16.3	16.7
2	15434	7.5	7.5	24.2
4	30974	15.1	15.1	39.4
C	123964	60.6	60.6	100.0
Total	204476	100.0	100.0	

**MATH Question 36**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	884	.4	.4	.4
*	171	.1	.1	.5
1	44171	21.6	21.6	22.1
2	56896	27.8	27.8	49.9
3	57286	28.0	28.0	78.0
D	45068	22.0	22.0	100.0
Total	204476	100.0	100.0	

**MATH Question 37**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	903	.4	.4	.4
*	184	.1	.1	.5
2	34581	16.9	16.9	17.4
3	11881	5.8	5.8	23.3
4	25993	12.7	12.7	36.0
A	130934	64.0	64.0	100.0
Total	204476	100.0	100.0	

**MATH Question 38**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1031	.5	.5	.5
*	85	.0	.0	.5
2	10301	5.0	5.0	5.6
3	11494	5.6	5.6	11.2
4	14401	7.0	7.0	18.2
A	167164	81.8	81.8	100.0
Total	204476	100.0	100.0	

**MATH Question 39**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1293	.6	.6	.6
*	88	.0	.0	.7
2	11475	5.6	5.6	6.3
3	32978	16.1	16.1	22.4
4	6201	3.0	3.0	25.4
A	152441	74.6	74.6	100.0
Total	204476	100.0	100.0	

**MATH Question 40**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2201	1.1	1.1	1.1
*	63	.0	.0	1.1
1	21709	10.6	10.6	11.7
2	77187	37.7	37.7	49.5
4	20596	10.1	10.1	59.5
C	82720	40.5	40.5	100.0
Total	204476	100.0	100.0	

**2011 Grade 3 Math Constructed Response Items**

**Descriptive Statistics**

	N	Mean	Std. Deviation
MATH Question 41	204269	1.51	.733
MATH Question 42	204298	1.63	.694
MATH Question 43	204075	1.23	.757
MATH Question 44	204098	.98	.950
MATH Question 45	204180	1.56	1.101
MATH Question 46	204224	2.60	.616
Valid N (listwise)	203598		

**2011 Grade 3 Math SPIs**

**Descriptive Statistics**

	N	Mean		Std.
	Statistic	Statistic	Std. Error	Statistic
MATH Standard 1 Performance Index	204469	71.40	.040	17.877
MATH Standard 2 Performance Index	204469	61.14	.050	22.621
MATH Standard 3 Performance Index	204469	72.06	.035	16.005
MATH Standard 4 Performance Index	204469	68.81	.044	19.937
MATH Standard 5 Performance Index	204469	78.20	.039	17.686
Valid N (listwise)	204469			