

2010 Grade 6 Mathematics Item Analysis- Multiple Choice Items

MATH Question 1

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 219 | .1 | .1 | .1 |
| * | 18 | .0 | .0 | .1 |
| 1 | 6710 | 3.1 | 3.1 | 3.2 |
| 2 | 7410 | 3.4 | 3.4 | 6.6 |
| 4 | 5715 | 2.6 | 2.6 | 9.3 |
| C | 196014 | 90.7 | 90.7 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 2

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 103 | .0 | .0 | .0 |
| * | 65 | .0 | .0 | .1 |
| 1 | 6291 | 2.9 | 2.9 | 3.0 |
| 2 | 5939 | 2.7 | 2.7 | 5.7 |
| 4 | 9115 | 4.2 | 4.2 | 10.0 |
| C | 194573 | 90.0 | 90.0 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 3

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 80 | .0 | .0 | .0 |
| * | 55 | .0 | .0 | .1 |
| 1 | 12121 | 5.6 | 5.6 | 5.7 |
| 3 | 2416 | 1.1 | 1.1 | 6.8 |
| 4 | 2272 | 1.1 | 1.1 | 7.8 |
| B | 199142 | 92.2 | 92.2 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 4

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 159 | .1 | .1 | .1 |
| * | 71 | .0 | .0 | .1 |
| 1 | 8613 | 4.0 | 4.0 | 4.1 |
| 2 | 28286 | 13.1 | 13.1 | 17.2 |
| 3 | 7142 | 3.3 | 3.3 | 20.5 |
| D | 171815 | 79.5 | 79.5 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 5

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 226 | .1 | .1 | .1 |
| * | 31 | .0 | .0 | .1 |
| 1 | 27685 | 12.8 | 12.8 | 12.9 |
| 2 | 17582 | 8.1 | 8.1 | 21.1 |
| 4 | 10547 | 4.9 | 4.9 | 25.9 |
| C | 160015 | 74.1 | 74.1 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 6

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 128 | .1 | .1 | .1 |
| * | 83 | .0 | .0 | .1 |
| 2 | 7117 | 3.3 | 3.3 | 3.4 |
| 3 | 16836 | 7.8 | 7.8 | 11.2 |
| 4 | 7014 | 3.2 | 3.2 | 14.4 |
| A | 184908 | 85.6 | 85.6 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 7

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 123 | .1 | .1 | .1 |
| * | 47 | .0 | .0 | .1 |
| 1 | 17505 | 8.1 | 8.1 | 8.2 |
| 2 | 10939 | 5.1 | 5.1 | 13.2 |
| 4 | 12204 | 5.6 | 5.6 | 18.9 |
| C | 175268 | 81.1 | 81.1 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 8

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 220 | .1 | .1 | .1 |
| * | 56 | .0 | .0 | .1 |
| 1 | 42957 | 19.9 | 19.9 | 20.0 |
| 3 | 21111 | 9.8 | 9.8 | 29.8 |
| 4 | 8216 | 3.8 | 3.8 | 33.6 |
| B | 143526 | 66.4 | 66.4 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 9

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 155 | .1 | .1 | .1 |
| * | 45 | .0 | .0 | .1 |
| 1 | 42945 | 19.9 | 19.9 | 20.0 |
| 2 | 48219 | 22.3 | 22.3 | 42.3 |
| 4 | 3407 | 1.6 | 1.6 | 43.9 |
| C | 121315 | 56.1 | 56.1 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 10

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 163 | .1 | .1 | .1 |
| * | 40 | .0 | .0 | .1 |
| 1 | 17184 | 8.0 | 8.0 | 8.0 |
| 2 | 23189 | 10.7 | 10.7 | 18.8 |
| 3 | 25678 | 11.9 | 11.9 | 30.7 |
| D | 149832 | 69.3 | 69.3 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 11

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 170 | .1 | .1 | .1 |
| * | 32 | .0 | .0 | .1 |
| 1 | 10823 | 5.0 | 5.0 | 5.1 |
| 2 | 7551 | 3.5 | 3.5 | 8.6 |
| 4 | 26295 | 12.2 | 12.2 | 20.8 |
| A | 437 | .2 | .2 | 21.0 |
| C | 170778 | 79.0 | 79.0 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 12

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 236 | .1 | .1 | .1 |
| * | 55 | .0 | .0 | .1 |
| 1 | 23064 | 10.7 | 10.7 | 10.8 |
| 2 | 18902 | 8.7 | 8.7 | 19.6 |
| 3 | 30741 | 14.2 | 14.2 | 33.8 |
| D | 143088 | 66.2 | 66.2 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 13

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 159 | .1 | .1 | .1 |
| * | 38 | .0 | .0 | .1 |
| 1 | 24604 | 11.4 | 11.4 | 11.5 |
| 2 | 17077 | 7.9 | 7.9 | 19.4 |
| 4 | 21997 | 10.2 | 10.2 | 29.6 |
| C | 152211 | 70.4 | 70.4 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 14

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 323 | .1 | .1 | .1 |
| * | 49 | .0 | .0 | .2 |
| 2 | 10385 | 4.8 | 4.8 | 5.0 |
| 3 | 19308 | 8.9 | 8.9 | 13.9 |
| 4 | 15678 | 7.3 | 7.3 | 21.2 |
| A | 170343 | 78.8 | 78.8 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 15

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 223 | .1 | .1 | .1 |
| * | 39 | .0 | .0 | .1 |
| 1 | 14809 | 6.9 | 6.9 | 7.0 |
| 2 | 37860 | 17.5 | 17.5 | 24.5 |
| 4 | 26528 | 12.3 | 12.3 | 36.8 |
| C | 136627 | 63.2 | 63.2 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 16

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 206 | .1 | .1 | .1 |
| * | 40 | .0 | .0 | .1 |
| 2 | 29070 | 13.5 | 13.5 | 13.6 |
| 3 | 7592 | 3.5 | 3.5 | 17.1 |
| 4 | 20979 | 9.7 | 9.7 | 26.8 |
| A | 158199 | 73.2 | 73.2 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 17

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 150 | .1 | .1 | .1 |
| * | 33 | .0 | .0 | .1 |
| 1 | 4011 | 1.9 | 1.9 | 1.9 |
| 2 | 10983 | 5.1 | 5.1 | 7.0 |
| 4 | 12862 | 6.0 | 6.0 | 13.0 |
| C | 188047 | 87.0 | 87.0 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 18

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 192 | .1 | .1 | .1 |
| * | 35 | .0 | .0 | .1 |
| 1 | 15427 | 7.1 | 7.1 | 7.2 |
| 3 | 4961 | 2.3 | 2.3 | 9.5 |
| 4 | 16565 | 7.7 | 7.7 | 17.2 |
| B | 178906 | 82.8 | 82.8 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 19

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 221 | .1 | .1 | .1 |
| * | 42 | .0 | .0 | .1 |
| 1 | 6021 | 2.8 | 2.8 | 2.9 |
| 2 | 16074 | 7.4 | 7.4 | 10.3 |
| 4 | 13196 | 6.1 | 6.1 | 16.5 |
| C | 180532 | 83.5 | 83.5 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 20

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 362 | .2 | .2 | .2 |
| * | 60 | .0 | .0 | .2 |
| 2 | 12499 | 5.8 | 5.8 | 6.0 |
| 3 | 22782 | 10.5 | 10.5 | 16.5 |
| 4 | 40312 | 18.7 | 18.7 | 35.2 |
| A | 140071 | 64.8 | 64.8 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 21

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 236 | .1 | .1 | .1 |
| * | 28 | .0 | .0 | .1 |
| 1 | 19063 | 8.8 | 8.8 | 8.9 |
| 3 | 4872 | 2.3 | 2.3 | 11.2 |
| 4 | 5167 | 2.4 | 2.4 | 13.6 |
| B | 186720 | 86.4 | 86.4 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 22

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 386 | .2 | .2 | .2 |
| * | 71 | .0 | .0 | .2 |
| 1 | 14714 | 6.8 | 6.8 | 7.0 |
| 2 | 75381 | 34.9 | 34.9 | 41.9 |
| 3 | 10743 | 5.0 | 5.0 | 46.9 |
| D | 114791 | 53.1 | 53.1 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 23

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 403 | .2 | .2 | .2 |
| * | 54 | .0 | .0 | .2 |
| 1 | 18490 | 8.6 | 8.6 | 8.8 |
| 2 | 7607 | 3.5 | 3.5 | 12.3 |
| 4 | 13580 | 6.3 | 6.3 | 18.6 |
| C | 175952 | 81.4 | 81.4 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 24

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 462 | .2 | .2 | .2 |
| * | 43 | .0 | .0 | .2 |
| 1 | 9779 | 4.5 | 4.5 | 4.8 |
| 2 | 9620 | 4.5 | 4.5 | 9.2 |
| 3 | 72925 | 33.7 | 33.7 | 43.0 |
| D | 123257 | 57.0 | 57.0 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

MATH Question 25

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 613 | .3 | .3 | .3 |
| * | 18 | .0 | .0 | .3 |
| 1 | 11542 | 5.3 | 5.3 | 5.6 |
| 3 | 6662 | 3.1 | 3.1 | 8.7 |
| 4 | 2134 | 1.0 | 1.0 | 9.7 |
| B | 195117 | 90.3 | 90.3 | 100.0 |
| Total | 216086 | 100.0 | 100.0 | |

2010 Grade 6 Mathematics Item Analysis- Constructed Response Items

Descriptive Statistics

| | N | Mean | | Std. |
|----------------------|-----------|-----------|------------|-----------|
| | Statistic | Statistic | Std. Error | Statistic |
| MATH Q26 Score Value | 215754 | 1.7919 | .00119 | .55182 |
| MATH Q27 Score Value | 215800 | 1.7049 | .00139 | .64626 |
| MATH Q28 Score Value | 212521 | 1.1347 | .00181 | .83633 |
| MATH Q29 Score Value | 215533 | 1.4831 | .00150 | .69767 |
| MATH Q30 Score Value | 215256 | .7404 | .00175 | .81382 |
| MATH Q31 Score Value | 215497 | 1.4438 | .00184 | .85339 |
| MATH Q32 Score Value | 215431 | 2.3549 | .00213 | .98874 |
| MATH Q33 Score Value | 214500 | 2.0058 | .00241 | 1.11801 |
| Math Q34 Score Value | 215734 | 1.3698 | .00191 | .88850 |
| Math Q35 Score Value | 215774 | 2.4082 | .00200 | .92825 |
| Valid N (listwise) | 210606 | | | |

2010 Grade 6 Mathematics Item Analysis- SPI Items

Descriptive Statistics

| | N | Mean | | Std. |
|--------------------------------------|-----------|-----------|------------|-----------|
| | Statistic | Statistic | Std. Error | Statistic |
| MATH Standard 1 Performance Index | 216084 | 64.36 | .044 | 20.397 |
| MATH Standard 2 Performance Index | 216084 | 76.33 | .045 | 21.019 |
| MATH Standard 3 Performance Index | 216084 | 72.50 | .044 | 20.329 |
| MATH Standard 4 Performance Index | 216084 | 81.88 | .041 | 19.140 |
| MATH Standard 5 Performance Index | 216084 | 77.91 | .041 | 19.240 |
| Valid N (listwise) | 216084 | | | |