

2010 Grade 7 Mathematics Item Analysis- Multiple Choice Items

MATH Question 1

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 99 | .0 | .0 | .0 |
| * | 39 | .0 | .0 | .1 |
| 1 | 3791 | 1.8 | 1.8 | 1.9 |
| 2 | 4499 | 2.2 | 2.2 | 4.1 |
| 4 | 21217 | 10.3 | 10.3 | 14.3 |
| C | 177005 | 85.7 | 85.7 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 2

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 103 | .0 | .0 | .0 |
| * | 52 | .0 | .0 | .1 |
| 2 | 8201 | 4.0 | 4.0 | 4.0 |
| 3 | 15713 | 7.6 | 7.6 | 11.6 |
| 4 | 14736 | 7.1 | 7.1 | 18.8 |
| A | 167845 | 81.2 | 81.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 3

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 272 | .1 | .1 | .1 |
| * | 51 | .0 | .0 | .2 |
| 1 | 12823 | 6.2 | 6.2 | 6.4 |
| 3 | 20077 | 9.7 | 9.7 | 16.1 |
| 4 | 10084 | 4.9 | 4.9 | 21.0 |
| B | 163343 | 79.0 | 79.0 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 4

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 442 | .2 | .2 | .2 |
| * | 99 | .0 | .0 | .3 |
| 1 | 36025 | 17.4 | 17.4 | 17.7 |
| 2 | 24886 | 12.0 | 12.0 | 29.7 |
| 4 | 59517 | 28.8 | 28.8 | 58.5 |
| C | 85681 | 41.5 | 41.5 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 5

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 499 | .2 | .2 | .2 |
| * | 60 | .0 | .0 | .3 |
| 2 | 41363 | 20.0 | 20.0 | 20.3 |
| 3 | 24862 | 12.0 | 12.0 | 32.3 |
| 4 | 11181 | 5.4 | 5.4 | 37.7 |
| A | 128685 | 62.3 | 62.3 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 6

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 394 | .2 | .2 | .2 |
| * | 80 | .0 | .0 | .2 |
| 1 | 20452 | 9.9 | 9.9 | 10.1 |
| 2 | 29301 | 14.2 | 14.2 | 24.3 |
| 4 | 49001 | 23.7 | 23.7 | 48.0 |
| C | 107422 | 52.0 | 52.0 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 7

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 193 | .1 | .1 | .1 |
| * | 39 | .0 | .0 | .1 |
| 1 | 36215 | 17.5 | 17.5 | 17.6 |
| 2 | 12857 | 6.2 | 6.2 | 23.9 |
| 4 | 3678 | 1.8 | 1.8 | 25.6 |
| C | 153668 | 74.4 | 74.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 8

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 111 | .1 | .1 | .1 |
| * | 36 | .0 | .0 | .1 |
| 2 | 2200 | 1.1 | 1.1 | 1.1 |
| 3 | 12741 | 6.2 | 6.2 | 7.3 |
| 4 | 3095 | 1.5 | 1.5 | 8.8 |
| A | 188467 | 91.2 | 91.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 9

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 120 | .1 | .1 | .1 |
| * | 29 | .0 | .0 | .1 |
| 2 | 9723 | 4.7 | 4.7 | 4.8 |
| 3 | 4468 | 2.2 | 2.2 | 6.9 |
| 4 | 14686 | 7.1 | 7.1 | 14.0 |
| A | 177624 | 86.0 | 86.0 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 10

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 448 | .2 | .2 | .2 |
| * | 74 | .0 | .0 | .3 |
| 1 | 26231 | 12.7 | 12.7 | 12.9 |
| 2 | 42514 | 20.6 | 20.6 | 33.5 |
| 3 | 51459 | 24.9 | 24.9 | 58.4 |
| D | 85924 | 41.6 | 41.6 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 11

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 97 | .0 | .0 | .0 |
| * | 45 | .0 | .0 | .1 |
| 2 | 6655 | 3.2 | 3.2 | 3.3 |
| 3 | 12939 | 6.3 | 6.3 | 9.6 |
| 4 | 6296 | 3.0 | 3.0 | 12.6 |
| A | 180618 | 87.4 | 87.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 12

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 180 | .1 | .1 | .1 |
| * | 44 | .0 | .0 | .1 |
| 1 | 12597 | 6.1 | 6.1 | 6.2 |
| 3 | 8259 | 4.0 | 4.0 | 10.2 |
| 4 | 7180 | 3.5 | 3.5 | 13.7 |
| B | 178390 | 86.3 | 86.3 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 13

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 167 | .1 | .1 | .1 |
| * | 47 | .0 | .0 | .1 |
| 2 | 13652 | 6.6 | 6.6 | 6.7 |
| 3 | 9101 | 4.4 | 4.4 | 11.1 |
| 4 | 7139 | 3.5 | 3.5 | 14.6 |
| A | 176544 | 85.4 | 85.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 14

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 139 | .1 | .1 | .1 |
| * | 57 | .0 | .0 | .1 |
| 1 | 11876 | 5.7 | 5.7 | 5.8 |
| 2 | 6703 | 3.2 | 3.2 | 9.1 |
| 4 | 15160 | 7.3 | 7.3 | 16.4 |
| C | 172715 | 83.6 | 83.6 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 15

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 236 | .1 | .1 | .1 |
| * | 66 | .0 | .0 | .1 |
| 2 | 33601 | 16.3 | 16.3 | 16.4 |
| 3 | 38196 | 18.5 | 18.5 | 34.9 |
| 4 | 16480 | 8.0 | 8.0 | 42.9 |
| A | 118071 | 57.1 | 57.1 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 16

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 254 | .1 | .1 | .1 |
| * | 55 | .0 | .0 | .1 |
| 1 | 46890 | 22.7 | 22.7 | 22.8 |
| 2 | 9972 | 4.8 | 4.8 | 27.7 |
| 3 | 15216 | 7.4 | 7.4 | 35.0 |
| D | 134263 | 65.0 | 65.0 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 17

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 136 | .1 | .1 | .1 |
| * | 46 | .0 | .0 | .1 |
| 2 | 7560 | 3.7 | 3.7 | 3.7 |
| 3 | 7201 | 3.5 | 3.5 | 7.2 |
| 4 | 5867 | 2.8 | 2.8 | 10.1 |
| A | 185840 | 89.9 | 89.9 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 18

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 289 | .1 | .1 | .1 |
| * | 52 | .0 | .0 | .2 |
| 1 | 13471 | 6.5 | 6.5 | 6.7 |
| 2 | 64764 | 31.3 | 31.3 | 38.0 |
| 4 | 40912 | 19.8 | 19.8 | 57.8 |
| C | 87162 | 42.2 | 42.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 19

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 270 | .1 | .1 | .1 |
| * | 51 | .0 | .0 | .2 |
| 2 | 59036 | 28.6 | 28.6 | 28.7 |
| 3 | 24447 | 11.8 | 11.8 | 40.6 |
| 4 | 14629 | 7.1 | 7.1 | 47.6 |
| A | 108217 | 52.4 | 52.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 20

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 167 | .1 | .1 | .1 |
| * | 37 | .0 | .0 | .1 |
| 2 | 5239 | 2.5 | 2.5 | 2.6 |
| 3 | 9477 | 4.6 | 4.6 | 7.2 |
| 4 | 15698 | 7.6 | 7.6 | 14.8 |
| A | 176032 | 85.2 | 85.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 21

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 174 | .1 | .1 | .1 |
| * | 35 | .0 | .0 | .1 |
| 1 | 3240 | 1.6 | 1.6 | 1.7 |
| 2 | 8479 | 4.1 | 4.1 | 5.8 |
| 4 | 14087 | 6.8 | 6.8 | 12.6 |
| C | 180635 | 87.4 | 87.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 22

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 224 | .1 | .1 | .1 |
| * | 49 | .0 | .0 | .1 |
| 1 | 10547 | 5.1 | 5.1 | 5.2 |
| 3 | 14348 | 6.9 | 6.9 | 12.2 |
| 4 | 11878 | 5.7 | 5.7 | 17.9 |
| B | 169604 | 82.1 | 82.1 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 23

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 186 | .1 | .1 | .1 |
| * | 62 | .0 | .0 | .1 |
| 1 | 32524 | 15.7 | 15.7 | 15.9 |
| 2 | 5058 | 2.4 | 2.4 | 18.3 |
| 4 | 4844 | 2.3 | 2.3 | 20.7 |
| C | 163976 | 79.3 | 79.3 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 24

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 275 | .1 | .1 | .1 |
| * | 76 | .0 | .0 | .2 |
| 1 | 31948 | 15.5 | 15.5 | 15.6 |
| 3 | 16811 | 8.1 | 8.1 | 23.8 |
| 4 | 26914 | 13.0 | 13.0 | 36.8 |
| B | 130626 | 63.2 | 63.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 25

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 365 | .2 | .2 | .2 |
| * | 80 | .0 | .0 | .2 |
| 2 | 19741 | 9.6 | 9.6 | 9.8 |
| 3 | 29466 | 14.3 | 14.3 | 24.0 |
| 4 | 36840 | 17.8 | 17.8 | 41.9 |
| A | 120158 | 58.1 | 58.1 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 26

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 327 | .2 | .2 | .2 |
| * | 64 | .0 | .0 | .2 |
| 1 | 10729 | 5.2 | 5.2 | 5.4 |
| 3 | 34143 | 16.5 | 16.5 | 21.9 |
| 4 | 28211 | 13.7 | 13.7 | 35.6 |
| B | 133176 | 64.4 | 64.4 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 27

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 394 | .2 | .2 | .2 |
| * | 72 | .0 | .0 | .2 |
| 1 | 10247 | 5.0 | 5.0 | 5.2 |
| 3 | 24719 | 12.0 | 12.0 | 17.1 |
| 4 | 15887 | 7.7 | 7.7 | 24.8 |
| B | 155331 | 75.2 | 75.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 28

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 367 | .2 | .2 | .2 |
| * | 77 | .0 | .0 | .2 |
| 1 | 17976 | 8.7 | 8.7 | 8.9 |
| 2 | 23488 | 11.4 | 11.4 | 20.3 |
| 4 | 15556 | 7.5 | 7.5 | 27.8 |
| C | 149186 | 72.2 | 72.2 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 29

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 489 | .2 | .2 | .2 |
| * | 63 | .0 | .0 | .3 |
| 2 | 29472 | 14.3 | 14.3 | 14.5 |
| 3 | 21015 | 10.2 | 10.2 | 24.7 |
| 4 | 24050 | 11.6 | 11.6 | 36.3 |
| A | 131561 | 63.7 | 63.7 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

MATH Question 30

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 480 | .2 | .2 | .2 |
| * | 57 | .0 | .0 | .3 |
| 1 | 5872 | 2.8 | 2.8 | 3.1 |
| 2 | 22014 | 10.7 | 10.7 | 13.8 |
| 3 | 5232 | 2.5 | 2.5 | 16.3 |
| D | 172995 | 83.7 | 83.7 | 100.0 |
| Total | 206650 | 100.0 | 100.0 | |

2010 Grade 7 Mathematics Item Analysis- Constructed Response Items

Descriptive Statistics

| | N | Mean | | Std. |
|----------------------|-----------|-----------|------------|-----------|
| | Statistic | Statistic | Std. Error | Statistic |
| MATH Q31 Score Value | 205950 | 1.6802 | .00134 | .60701 |
| MATH Q32 Score Value | 204953 | .4674 | .00172 | .77984 |
| MATH Q33 Score Value | 206157 | 1.6970 | .00131 | .59618 |
| Math Q34 Score Value | 205850 | 1.3496 | .00186 | .84533 |
| Math Q35 Score Value | 205648 | 2.2372 | .00204 | .92324 |
| Math Q36 Score Value | 202788 | 1.5440 | .00247 | 1.11411 |
| Math Q37 Score Value | 204959 | 1.0597 | .00212 | .95876 |
| Math Q38 Score Value | 204714 | 1.2531 | .00239 | 1.08319 |
| Valid N (listwise) | 199006 | | | |

2010 Grade 7 Mathematics Item Analysis- SPI Items

Descriptive Statistics

| | N | Mean | | Std. |
|--------------------------------------|-----------|-----------|------------|-----------|
| | Statistic | Statistic | Std. Error | Statistic |
| MATH Standard 1 Performance Index | 206642 | 59.73 | .049 | 22.433 |
| MATH Standard 2 Performance Index | 206642 | 67.66 | .038 | 17.416 |
| MATH Standard 3 Performance Index | 206642 | 51.69 | .045 | 20.264 |
| MATH Standard 4 Performance Index | 206642 | 73.24 | .045 | 20.512 |
| MATH Standard 5 Performance Index | 206642 | 76.48 | .042 | 18.972 |
| Valid N (listwise) | 206642 | | | |