

2015-2016 TMSCA Middle School Number Sense Test #6

- (1) $972 - 683 =$ _____
- (2) $46 + 47 + 48 =$ _____
- (3) $0.25 \times 124 =$ _____
- (4) $72 \div 4 =$ _____
- (5) $2016 \times 6 =$ _____
- (6) $0.875 =$ _____ (fraction)
- (7) $71235 \div 3$ has a remainder of _____
- (8) $12^2 \div (3 \times 4) + 1 =$ _____
- (9) $\frac{9}{125} =$ _____ (decimal)
- *(10) $23518 - 2351 + 235 =$ _____
- (11) $15 \times 23 =$ _____
- (12) $33 \frac{1}{3} \times 42 =$ _____
- (13) $48 \times 42 + 9 =$ _____
- (14) What is the smallest two digit number that has a remainder of 1 when divided by 2, 3, and 4? _____
- (15) $18^2 =$ _____
- (16) $\frac{1}{4} + \frac{7}{12} =$ _____ (fraction)
- (17) Which of $\frac{5}{9}$ or $\frac{7}{12}$ is greater? _____
- (18) $68 \times 48 =$ _____
- (19) 11 feet + 3 inches = _____ inches
- *(20) $88 \times 631 =$ _____
- (21) $4221 = 63 \times$ _____
- (22) $94 \times 97 =$ _____
- (23) $17 \times 5 \frac{3}{17} =$ _____
- (24) $103 \times 115 =$ _____
- (25) The reciprocal of 0.4 is _____ (mixed number)
- (26) $101 \times 836 =$ _____
- (27) Find the GCF of 42 and 77. _____
- (28) $812365 \div 11$ has a remainder of _____
- (29) The mean of the smallest 4 prime numbers is _____
- *(30) $\sqrt{3474} =$ _____
- (31) If a \$50 pair of jeans is on sale for 20% off, how much is the sale price? \$ _____
- (32) 55 has how many positive integral divisors? _____
- (33) If the range of 2, 3, 5, 7, and x is 12, then the smallest possible value of x is _____
- (34) $\frac{5}{8} + \frac{8}{5} =$ _____ (mixed number)
- (35) If $3x + 4 = 101$, then $3x + 2 =$ _____
- (36) $36^2 - 14^2 =$ _____
- (37) Find the area of a rectangle with length 41 and width 39. _____
- (38) $18^2 + 54^2 =$ _____
- (39) If $x^3 = 125$, then $7x + 1 =$ _____
- *(40) 32% of 75% of 499 is _____
- (41) The largest angle in an isosceles triangle with base angle 52° is _____ $^\circ$

(42) $95 \times 103 =$ _____

(43) Find the median of a trapezoid with bases 14 and 24. _____

(44) $9 \text{ ft} \times 12 \text{ ft} \times 7 \text{ ft} =$ _____ yards³

(45) $1 + 3 + 5 + \dots + 49 =$ _____

(46) If $f(x) = \frac{34}{x}$, then $f\left(\frac{1}{11}\right) =$ _____

(47) How many subsets does {b, r, y, a, n} have that contain exactly 3 elements? _____

(48) How many distinct diagonals can be drawn inside a regular polygon with exterior angle 60° ? _____

(49) $19_{10} =$ _____₅

*(50) The sum of the interior angles of a 53-sided polygon is _____

(51) $25 \times \frac{27}{28} =$ _____ (mixed number)

(52) $-15^2 =$ _____

(53) The area of an equilateral triangle with side 8 is $k\sqrt{3}$, $k =$ _____

(54) The volume of a cube with 11 cm is _____ cm³

(55) The sum of the x-intercept and y-intercept of $3x - 2y = 24$ is _____

(56) $45_7 \div 3_7 =$ _____₇

(57) $\frac{2}{11}$ of a gallon = _____ cubic inches

(58) $(2^2 + 3^4) \div 5$ has a remainder of _____

(59) If $4^2 + 8^2 + 16^2 = (4)^2 k$, then $k =$ _____

*(60) $3\frac{1}{4} \times 398 =$ _____

(61) $0.444\dots =$ _____ (fraction)

(62) The smallest palindrome larger than 292 is _____

(63) $50^\circ \text{ F} =$ _____ $^\circ \text{ C}$

(64) What is the 10th pentagonal number? _____

(65) The slope of a line with equation $\frac{1}{2}x - \frac{1}{3}y = 11$ is _____

(66) How many digits are in the product $2^5 \times 5^3 \times 7^2$? _____

(67) $\frac{5 \times 12!}{3 \times 10!} =$ _____

(68) If $x^2 - 5x - 50 = (x + p)(x + q)$, find the lesser of p and q. _____

(69) $57 \times 101 + 57 \times 10 =$ _____

*(70) Find the volume of a 17 x 20 x 23 rectangular solid. _____

(71) $\log_2 8 + \log_2 32 =$ _____

(72) If $f(x) = 3x^3 - 5x^2 + 4x - 2$ then $f(3) =$ _____

(73) If an urn contains 3 red marbles, 4 blue marbles and 8 orange marbles, then the odds of choosing a red marble is _____

(74) P and Q are the roots of $9x^2 + 12x + 10 = 0$, $P + Q - PQ =$ _____

(75) $i^{34} =$ _____

(76) $143 \times 133 =$ _____

(77) The smaller solution of $|2x - 1| = 9$ is _____

(78) If $10^x = 9$, then $10^{\frac{1}{2}x} =$ _____

(79) 22.5 mph = _____ feet per second

*(80) 725 quarts = _____ ounces

2015-2016 TMSCA Middle School Number Sense Key #6

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|---------------------|---|-----------------------|---|
| (1) 289 | (22) 9118 | (42) 9785 | (62) 303 |
| (2) 141 | (23) 88 | (43) 19 | (63) 10 |
| (3) 31 | (24) 11845 | (44) 28 | (64) 145 |
| (4) 18 | (25) $2\frac{1}{2}$ | (45) 625 | (65) $1.5, 1\frac{1}{2}, \text{ or } \frac{3}{2}$ |
| (5) 12096 | (26) 84436 | (46) 374 | (66) 6 |
| (6) $\frac{7}{8}$ | (27) 7 | (47) 10 | (67) 220 |
| (7) 0 | (28) 4 | (48) 9 | (68) -10 |
| (8) 13 | (29) $4.25, 4\frac{1}{4}, \text{ or } \frac{17}{4}$ | (49) 34 | (69) 6327 |
| (9) .072 | *(30) 56 - 61 | *(50) 8721 - 9639 | *(70) 7429 - 8211 |
| *(10) 20332 - 22472 | (31) 40.00 | (51) $24\frac{3}{28}$ | (71) 8 |
| (11) 345 | (32) 4 | (52) -225 | (72) 46 |
| (12) 1400 | (33) -10 | (53) 16 | (73) $\frac{1}{4}$ |
| (13) 2025 | (34) $2\frac{9}{40}$ | (54) 1331 | (74) $-\frac{22}{9}$ or $-2\frac{4}{9}$ |
| (14) 13 | (35) 99 | (55) -4 | (75) -1 |
| (15) 324 | (36) 1100 | (56) 14 | (76) 19019 |
| (16) $\frac{5}{6}$ | (37) 1599 | (57) 42 | (77) -4 |
| (17) $\frac{7}{12}$ | (38) 3240 | (58) 0 | (78) 3 |
| (18) 3264 | (39) 36 | (59) 21 | (79) 33 |
| (19) 135 | *(40) 114 - 125 | *(60) 1229 - 1358 | *(80) 22040 - 24360 |
| *(20) 52752 - 58304 | (41) 76 | (61) $\frac{4}{9}$ | |