

2017-2018 TMSCA Middle School Number Sense Test 4

- (1) $2018 - 1234 =$ _____
- (2) $35 \times 12 =$ _____
- (3) $14 + 20 + 26 - 15 =$ _____
- (4) $48 \times 25 =$ _____
- (5) $11 \times 94 =$ _____
- (6) $4^3 =$ _____
- (7) $483742 \div 3$ has a remainder of _____
- (8) Find the sum of the smallest 4 prime numbers. _____
- (9) $\frac{3}{5} =$ _____ %
- *(10) $2018 \times 248 =$ _____
- (11) $41 \times 49 =$ _____
- (12) $93 \div 2 =$ _____ (mixed number)
- (13) $93 \times 95 =$ _____
- (14) 2 feet + 9 inches = _____ inches
- (15) $18^2 =$ _____
- (16) $42 \times 37 =$ _____
- (17) $67 \times 111 =$ _____
- (18) $83 \times 35 - 48 \times 35 =$ _____
- (19) $\frac{9}{13} - \frac{4}{7} =$ _____ (fraction)
- *(20) $334 \times 839 =$ _____
- (21) $12 \times 33 \frac{1}{3} =$ _____
- (22) The arithmetic mean of 15, 24, and _____ is 25
- (23) $97 \times 17 =$ _____
- (24) $2018 \div 9 =$ _____ (mixed number)
- (25) $1 + 3 + 5 + \dots + 37 =$ _____
- (26) $23^2 - 17^2 =$ _____
- (27) How many integers between 50 and 100 are the square of an integer? _____
- (28) What is the LCM of 44 and 99? _____
- (29) $102 \times 114 =$ _____
- *(30) $43281 \div 143 =$ _____
- (31) $\frac{10!}{8!} =$ _____
- (32) 62 has how many positive integral divisors? _____
- (33) $25^2 + 75^2 =$ _____
- (34) $\frac{9}{11} + \frac{11}{9} =$ _____ (mixed number)
- (35) By how much does the sum of the smallest 16 positive odd integers exceed the sum of the smallest 9 positive odd integers? _____
- (36) How many fractions with a numerator of 2 are between $\frac{1}{3}$ and $\frac{1}{5}$? _____
- (37) Find the hypotenuse of a right triangle which has legs of 9 and 12. _____
- (38) $5625 = 73 \times 77 +$ _____
- (39) If $3(2x - 5) = 40$, then $9(5 - 2x) =$ _____
- *(40) $\sqrt{381459} =$ _____
- (41) The area of a square with diagonal $3\sqrt{6}$ is _____
- (42) $\sqrt{8649} =$ _____

- (43) $123_8 =$ _____₁₀
- (44) The exterior angle of an equilateral triangle has a measure of _____^o
- (45) $92^2 + 11^2 =$ _____
- (46) The product of 1.7 and its additive inverse is _____
- (47) The set {a,g,h,i,k,m,n,o} has how many subsets have with either 2 or 6 elements? _____
- (48) $48 \times 34 =$ _____
- (49) If $4 + 8 + 12 + \dots + 56 = 4k$, then $k =$ _____
- *(50) Find the 50th pentagonal number. _____
- (51) $27 \times \frac{26}{23} =$ _____ (mixed number)
- (52) How many terms are in the arithmetic sequence 5, 11, 17, ..., 89? _____
- (53) $5 \times 6 \times 7 \times 8 + 1 = k^2$ and $k > 0$, then $k =$ _____
- (54) Find the slope of a line perpendicular to the line which contains the points (4, 3) and (8, 9). _____
- (55) $7\frac{3}{4} \times 5\frac{3}{4} =$ _____ (mixed number)
- (56) The 7th triangular number is _____
- (57) $\frac{3}{4}$ of a mile = _____ yards
- (58) The remainder when the sum of the digits of 3^{16} is divided by 9 is _____
- (59) $17.5^2 - 16.5^2 + 15.5^2 - 14.5^2 =$ _____
- *(60) $92 \times 95 \times 96 =$ _____
- (61) $147_8 =$ _____₂
- (62) The sum of the solutions of $|x - 2.75| = 4$ is _____
- (63) The longest leg of a 30 – 60 – 90 right triangle with a hypotenuse of $14\sqrt{3}$ is _____
- (64) If $f(x) = 12x + 19$, then $f(108) - f(7) =$ _____
- (65) How many integer solutions does $7 \leq 2x \leq 39$ have? _____
- (66) The y-intercept of $y - 4 = 2(x - 3)$ is _____
- (67) $(35_8)^2 =$ _____₈
- (68) If p, q, and r, are roots of $x^3 - 4x^2 - 15x + 12 = 0$, then $p + q + r + pqr =$ _____
- (69) The set {a,g,h,i,k,m,n,o} has how many subsets? _____
- *(70) $22^2 \times 18^2 =$ _____
- (71) $f(x) = 3x^2 - 2x + 5$ has _____ real roots
- (72) The geometric mean of $5^9, 5^{10}, 5^{11}$ and 5^{14} is 5^x , where $x =$ _____
- (73) If $f(x)$ is a parabola with vertex (2, 5), then $Qf(x - 4) + 7$ has vertex (6, 22). $Q =$ _____
- (74) $704^2 =$ _____
- (75) $\sqrt{\frac{9!2!}{7!}} =$ _____
- (76) Find the probability of choosing a divisor of 12 from the smallest 12 natural numbers. _____
- (77) How many positive integers less than 26 are relatively prime to 26? _____
- (78) If a line with an x-intercept of - 4 has a slope of 2, then it has a y-intercept of _____
- (79) If $x - 3 = 11$, then $x^2 - 8x + 16 =$ _____
- *(80) 60% of $132 \times 300 =$ _____

2017-2018 TMSCA Middle School Number Sense Key #4

- (1) 784
(2) 420
(3) 45
(4) 1200
(5) 1034
(6) 64
(7) 1
(8) 17
(9) 60
*(10) 475441 – 525487
(11) 2009
(12) $46\frac{1}{2}$
(13) 8835
(14) 33
(15) 324
(16) 1554
(17) 7437
(18) 1225
(19) $\frac{11}{91}$
*(20) 266215 – 294237
(21) 400
(22) 36
- (23) 1649
(24) $224\frac{2}{9}$
(25) 361
(26) 240
(27) 2
(28) 396
(29) 11628
*(30) 288 – 317
(31) 90
(32) 4
(33) 6250
(34) $2\frac{4}{99}$
(35) 175
(36) 3
(37) 15
(38) 4
(39) – 120
*(40) 587 – 648
(41) 27
(42) 93
- (43) 83
(44) 120
(45) 8585
(46) $-2.89, -2\frac{89}{100}, -\frac{289}{100}$
(47) 56
(48) 1632
(49) 105
*(50) 3539 – 3911
(51) $30\frac{12}{23}$
(52) 15
(53) 41
(54) $-\frac{2}{3}$
(55) $44\frac{9}{16}$
(56) 28
(57) 1320
(58) 0
(59) 64
*(60) 797088 – 880992
(61) 1100111
(62) $5.5, 5\frac{1}{2}, \frac{11}{2}$
- (63) 21
(64) 1212
(65) 16
(66) – 2
(67) 1511
(68) – 8
(69) 256
*(70) 148976 – 164656
(71) 0
(72) 11
(73) 3
(74) 495616
(75) 12
(76) $\frac{1}{2}$
(77) 12
(78) 8
(79) 100
*(80) 22572 – 24948