

2019-2020 TMSCA Middle School Number Sense Test 11

- (1) $336 + 774 - 888 =$ _____
- (2) $675 - 144 - 21 =$ _____
- (3) $24 \times 15 - 60 =$ _____
- (4) $68\% =$ _____ (fraction)
- (5) $\frac{3}{7} + \frac{3}{14} + 1 =$ _____ (improper fraction)
- (6) $0.08333\dots$ _____ (fraction)
- (7) $22^2 =$ _____
- (8) $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} =$ _____ (fraction)
- (9) DCCLXXVII = _____ (Arabic numeral)
- *(10) $222 + 1222 + 388 =$ _____
- (11) $47 \times 25 =$ _____
- (12) 15 is _____ percent of 25?
- (13) $23 \times 35 + 17 \times 35 =$ _____
- (14) 2.5 gallons = _____ (cups)
- (15) $56 \times 44 + 36 =$ _____
- (16) The sum of the prime numbers between 80 and 90 is _____
- (17) $88 \times 101 + 112 =$ _____
- (18) $105 \times 113 =$ _____
- (19) $87 \times 27 =$ _____
- *(20) $386 \times 766 =$ _____
- (21) $8\frac{2}{5} \times 8\frac{3}{5} =$ _____ (mixed number)
- (22) $0.3777\dots =$ _____ (fraction)
- (23) $\frac{7}{12} + \frac{12}{7} =$ _____ (mixed number)
- (24) 350 base 10 = _____ base 7
- (25) If $n = \sqrt[3]{2744}$, then $n^2 + 4 =$ _____
- (26) $\frac{9}{10} - \frac{10}{9} =$ _____
- (27) $6! - 11^2 + 1 =$ _____
- (28) {a,b,c,d,e,f,g} has _____ subsets
- (29) $286 \times 49 =$ _____
- *(30) $\sqrt{882266} =$ _____
- (31) $3 + 9 + 15 + 21 + \dots + 69 =$ _____
- (32) $11^2 + 92^2 =$ _____
- (33) If $4x + 16 = 4$, then $(3x - 7)^2 =$ _____
- (34) If 15 bots cost \$45.75, then 12 bots cost \$ _____
- (35) If $f(x) = 16x^2 + 8x + 1$, then $f(6) =$ _____
- (36) The slope of the line $5x - 8y = 11$ is _____
- (37) $(44 + 16 \times 33) \div 6$ has a remainder of _____
- (38) If $3^x = \frac{1}{81}$, then $x^2 =$ _____
- (39) If $64^2 - 35^2 = 29 \times k$, then $k =$ _____
- *(40) $13 \times 16 \times 19 =$ _____
- (41) $S = \{0, 7, 26, 63, 124, k, 342, 511\}$. $k =$ _____
- (42) The smaller root of $(x + 1)^2 = \frac{4}{25}$ is _____

- (43) The measure of an interior angle of a regular pentagon is _____ $^{\circ}$.
- (44) A right triangle with integral sides has a hypotenuse length of 61 cm. The area of the triangle is _____ cm^2 .
- (45) If $3x + 2y = 1$ and $x - y = -8$, then $x =$ _____
- (46) Evaluate $(35)(xy)^{\frac{1}{2}}$ if $x = 9$ and $y = 16$. _____
- (47) $5\frac{5}{8} \div \frac{3}{4} =$ _____ (mixed number)
- (48) A string 2 yd, 2 ft long is cut into 4 equal pieces. How long is each piece? _____ in
- (49) If $|4x + 6| = 14$, $x < 0$, then $x =$ _____
- *(50) $843692 \div 186 =$ _____
- (51) $8^{-1} + 8^{-2} + 8^{-3} =$ _____
- (52) $(993)^2 =$ _____
- (53) $\frac{4}{5} \times \frac{7}{8} \times \frac{10}{21} =$ _____
- (54) $\frac{23}{40} =$ _____ (decimal)
- (55) $54 \times 1111 =$ _____
- (56) $59 + 25\%$ of 48 = _____
- (57) The slope of the perpendicular bisector of a line segment with endpoints $(-2, -6)$ and $(6, 11)$ is _____
- (58) $111011001_2 =$ _____ $_8$
- (59) If $(5x - 7)^2 = ax^2 + bx + c$, then $a + b =$ _____
- *(60) 48 miles = _____ feet
- (61) The LCM of 18, 21 and 9 is _____
- (62) $14 \times \frac{17}{12} =$ _____ (mixed number)
- (63) If the probability of winning is 70%, then the odds of losing is _____
- (64) If $7^x = 5\frac{4}{9}$, then $7^{(x-2)} =$ _____
- (65) If $20^7 \div 8 = (2^x)(5^y)$, then $x + y =$ _____
- (66) $45 + 30 + 20 + 13\frac{1}{3} + 8\frac{8}{9} + \dots =$ _____
- (67) If the diagonal of a square is $\sqrt{72}$ in, then the area is _____ in^2
- (68) If the roots of $2x^2 + x - 15 = 0$ are P and Q, then $PQ + (P + Q) =$ _____
- (69) The volume of a cone is $48\pi \text{ cm}^3$. Find the radius if the height is 9 cm. _____ cm
- *(70) $e^5 \times \pi^5 =$ _____
- (71) $333_4 + 444_5 =$ _____ $_{10}$
- (72) $0.147147147\dots =$ _____ (fraction)
- (73) $1 + \frac{1}{3} + \frac{1}{6} + \frac{1}{10} + \frac{1}{15} + \dots + \frac{1}{55} =$ _____
- (74) $\sqrt[3]{140608} =$ _____
- (75) If $155_b = 71$, then $43_b =$ _____
- (76) $\frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} =$ _____
- (77) If $(21)(37)(39)(k) = 90909$, then $k =$ _____
- (78) $998 \times 1003 =$ _____
- (79) The sum of the integral solutions of $|x - 7| \leq 6$ is _____
- *(80) $1,145,233 \times 0.444 =$ _____

2019-2020 TMSCA MSNS Test 11 Key

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|-----------------------|--|-----------------------|---|
| (1) 222 | (22) $\frac{17}{45}$ | (43) 108 | (62) $19\frac{5}{6}$ |
| (2) 510 | (23) $2\frac{25}{84}$ | (44) 330 | (63) $\frac{3}{7}$ |
| (3) 300 | (24) 1010 | (45) -3 | (64) $\frac{1}{9}$ |
| (4) $\frac{17}{25}$ | (25) 200 | (46) 420 | (65) 18 |
| (5) $\frac{23}{14}$ | (26) $-\frac{19}{90}$ | (47) $7\frac{1}{2}$ | (66) 135 |
| (6) $\frac{1}{12}$ | (27) 600 | (48) 24 | (67) 36 |
| (7) 484 | (28) 128 | (49) -5 | (68) -8 |
| (8) $\frac{7}{8}$ | (29) 14014 | * (50) 4310-4762 | (69) 4 |
| (9) 777 | * (30) 893-986 | (51) $\frac{73}{512}$ | * (70) 43147-47688 |
| * (10) 1741-1923 | (31) 432 | (52) 986049 | (71) 187 |
| (11) 1175 | (32) 8585 | (53) $\frac{1}{3}$ | (72) $\frac{49}{333}$ |
| (12) 60 | (33) 256 | (54) .575 | (73) $1\frac{9}{11}$ or $\frac{20}{11}$ |
| (13) 1400 | (34) 36.60 | (55) 59994 | (74) 52 |
| (14) 40 | (35) 625 | (56) 71 | (75) 27 |
| (15) 2500 | (36) $\frac{5}{8}$ or .625 | (57) $-\frac{8}{17}$ | (76) $\frac{4}{21}$ |
| (16) 172 | (37) 2 | (58) 731 | (77) 3 |
| (17) 9000 | (38) 16 | (59) -45 | (78) 1000994 |
| (18) 11865 | (39) 99 | * (60) 240768-266112 | (79) 91 |
| (19) 2349 | * (40) 3755-4149 | (61) 126 | * (80) 483060-533907 |
| * (20) 280893-310459 | (41) 215 | | |
| (21) $72\frac{6}{25}$ | (42) $-1\frac{2}{5}, -1.4, -\frac{7}{5}$ | | |