

2021-2022 TMSCA Middle School Number Sense Test 1

- (1) $754 - 234 =$ _____
- (2) $654 + 345 =$ _____
- (3) $\frac{7}{8} - \frac{3}{4} =$ _____ (fraction)
- (4) $6.25 + 3.5 =$ _____ (mixed number)
- (5) $13^2 =$ _____
- (6) $3434 \div 17 =$ _____
- (7) $63 \times 101 =$ _____
- (8) $39 - (3 \times 4) + 5 =$ _____
- (9) $65\% =$ _____ (fraction)
- *(10) $688 + 423 - 489 =$ _____
- (11) $468 \times 11 =$ _____
- (12) $35 \times 45 =$ _____
- (13) $8^3 =$ _____
- (14) $56 \times 54 =$ _____
- (15) The mean of 24, 32 and 37 is _____
- (16) $36 \times 44 =$ _____
- (17) 30% of 40 plus 28 is _____
- (18) $30 + 33 + 36 + 39 + 42 =$ _____
- (19) $4\frac{1}{4} - 1\frac{3}{8} =$ _____ (mixed number)
- *(20) $522 \times 678 =$ _____
- (21) $4\frac{1}{3} \times 6\frac{1}{2} =$ _____ (mixed number)
- (22) $106 \times 102 =$ _____
- (23) The GCD of 24, 60 and 72 is _____
- (24) $\frac{1}{5} + \frac{1}{10} + \frac{1}{15} =$ _____ (fraction)
- (25) What is 8% tax on \$60.00? \$ _____
- (26) $3544 \div 7 =$ _____ (mixed number)
- (27) $17^2 - 16^2 =$ _____
- (28) 1 yard + 1 foot + 1 inch = _____ inches
- (29) $73_8 =$ _____ base 10
- *(30) $\sqrt{485402} =$ _____
- (31) The cost of driving
72 miles at 25¢ per mile is \$ _____
- (32) $97 \times 102 =$ _____
- (33) If the perimeter of a
square is 48, then the area is _____
- (34) $12.5 \times 0.05 =$ _____
- (35) 462 cubic inches = _____ gallons
- (36) If the perimeter of an equilateral
triangle is 36, then the area = _____ $\sqrt{3}$
- (37) If $4x - 9 = 27$, then $x^2 =$ _____
- (38) If $4^x = 5.2$, then $4^{x+1} =$ _____
- (39) 1 gallon = _____ ounces
- *(40) 3 miles = _____ feet
- (41) $(17x - 5)^2 = ax^2 + bx + c$. $a + b + c =$ _____
- (42) $325_7 + 252_7 =$ _____₇

- (43) There are ___ positive integral divisors of 36.
- (44) $222 \times \frac{6}{37} =$ _____
- (45) The seventh triangular number is _____
- (46) If the total surface area of a cube is 486 cm^2 , then the length of an edge is ___ cm
- (47) $S = \{4, 6, 10, 16, 26, 42, 68, k, 178, \dots\}$. $k =$ _____
- (48) $1694 \times 6 + 36 =$ _____
- (49) The larger root of $(5x - 1)^2 = \frac{4}{9}$ is _____
- *(50) $18 \times 22 \times 26 =$ _____
- (51) $47_8 =$ _____₂
- (52) $0.151515\dots =$ _____ (fraction)
- (53) $996 \times 997 =$ _____
- (54) The slope of a line containing the points $(4, -4)$ and $(-2, 8)$ is _____
- (55) $(18 + 28 \times 19) \div 7$ has a remainder of _____
- (56) $5\frac{3}{5} \times 5\frac{2}{5} =$ _____ (mixed number)
- (57) $603^2 =$ _____
- (58) 4.8 is what percent of 60? _____ %
- (59) $13 \times \frac{15}{17} =$ _____ (mixed number)
- *(60) $\sqrt[3]{204277} =$ _____
- (61) $f(x) = x^2 - 10x + 25$. $f(24) =$ _____
- (62) $15 + 12 + \frac{48}{5} + \frac{192}{25} + \frac{768}{125} + \dots =$ _____
- (63) The probability of rolling two dice and getting a sum of 2 or 3 is _____
- (64) $95^\circ \text{F} =$ _____ $^\circ \text{C}$
- (65) $333 \times \frac{1}{27} =$ _____ (mixed number)
- (66) If the vertex of the parabola $y = x^2 - 6x + 13$ is (h, k) , then $k =$ _____
- (67) $366_8 \div 6_8 =$ _____₈
- (68) The first 4 digits of the decimal for $\frac{33}{45}$ are 0. _____
- (69) If $24^4 \div 6 = (2^x)(3^y)$, then $x + y =$ _____
- *(70) $1000 \text{ ft/s} =$ _____ mph
- (71) $15^3 - 14^3 =$ _____
- (72) $37^2 + 67^2 =$ _____
- (73) $9 + 6 + 15 + 21 + 36 + \dots + 243 + 393 =$ _____
- (74) If $f(x) = \frac{9x - 4}{7} - 14$, then $f^{-1}(6) =$ _____
- (75) If $(3)(7)(13)(k) = 40404$, then $k =$ _____
- (76) Find the sum of the reciprocals of the first five triangular numbers. _____
- (77) The 16th term of the sequence 7, 13, 19, 25, ... is _____
- (78) The sum of the squares of the roots of $2x^2 - 2x - 24 = 0$ is _____
- (79) The sum of the integral solutions of $|3x + 9| \leq 30$ is _____
- *(80) If light travels 186,000 miles per second, how far does light travel in 4.5 seconds? _____ mi

2021-2022 TMSCA MSNS Test 1 Key

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|----------------------|--|-----------------------|--------------------------------------|
| (1) 520 | (22) 10812 | (43) 9 | (63) $\frac{1}{12}$ |
| (2) 999 | (23) 12 | (44) 36 | (64) 35 |
| (3) $\frac{1}{8}$ | (24) $\frac{11}{30}$ | (45) 28 | (65) $12\frac{1}{3}$ |
| (4) $9\frac{3}{4}$ | (25) 4.80 | (46) 9 | (66) 4 |
| (5) 169 | (26) $506\frac{2}{7}$ | (47) 110 | (67) 51 |
| (6) 202 | (27) 33 | (48) 10200 | (68) 7333 |
| (7) 6363 | (28) 49 | (49) $\frac{1}{3}$ | (69) 14 |
| (8) 32 | (29) 59 | * (50) 9782–10810 | (70) 648–715 |
| (9) $\frac{13}{20}$ | * (30) 662–731 | (51) 100111 | (71) 631 |
| * (10) 591–653 | (31) 18.00 | (52) $\frac{5}{33}$ | (72) 5858 |
| (11) 5148 | (32) 9894 | (53) 993012 | (73) 1023 |
| (12) 1575 | (33) 144 | (54) –2 | (74) 16 |
| (13) 512 | (34) .625 or $\frac{5}{8}$ | (55) 4 | (75) 148 |
| (14) 3024 | (35) 2 | (56) $30\frac{6}{25}$ | (76) $1\frac{2}{3}$ or $\frac{5}{3}$ |
| (15) 31 | (36) 36 | (57) 363609 | (77) 97 |
| (16) 1584 | (37) 81 | (58) 8 | (78) 25 |
| (17) 40 | (38) 20.8, $20\frac{4}{5}$, $\frac{104}{5}$ | (59) $11\frac{8}{17}$ | (79) –63 |
| (18) 180 | (39) 128 | * (60) 56–61 | (80) 795150–878850 |
| (19) $2\frac{7}{8}$ | * (40) 15048–16632 | (61) 361 | |
| * (20) 336221–371611 | (41) 144 | (62) 75 | |
| (21) $28\frac{1}{6}$ | (42) 610 | | |