

2019-2020 TMSCA Middle School Number Sense Test 9

- (1) $1972 + 2040 =$ _____
- (2) $20 \times 125 =$ _____
- (3) $\frac{5}{9} + \frac{2}{3} =$ _____ (mixed number)
- (4) $18^2 =$ _____
- (5) $536 \times 11 =$ _____
- (6) $78214 \div 9$ has a remainder of _____
- (7) $25535 \div 5 =$ _____
- (8) $0.875 =$ _____ (fraction)
- (9) $7(14) + 7(5) + 7(11) =$ _____
- *(10) $40 + 493 \times 51 =$ _____
- (11) $84 \times 76 =$ _____
- (12) 80% of 60 minus 18 = _____
- (13) $1996 \times 4 + 16 =$ _____
- (14) The smallest prime number greater than 61 is _____
- (15) $93 \times 97 =$ _____
- (16) The arithmetic mean of 36, 48 and 39 is _____
- (17) $\frac{7}{40} =$ _____ %
- (18) $11\frac{3}{8} - 2\frac{3}{4} =$ _____ (mixed number)
- (19) $LIX + XLI =$ _____ (Arabic Numeral)
- *(20) $58 \times 2012 =$ _____
- (21) $212 = 14 \times 14 + k$. $k =$ _____
- (22) The simple interest on \$500 at a rate of 6% for 3 years is \$ _____
- (23) $5.67 \text{ kg} =$ _____ g
- (24) The LCM of 25 and 45 is _____
- (25) 87 base 10 = _____ base 5
- (26) $8 + 13 + 18 + 23 + \dots + 53 =$ _____
- (27) $8\frac{1}{3} \times 6\frac{1}{4} =$ _____ (mixed number)
- (28) $0.727272\dots =$ _____ (fraction)
- (29) $18 \times 3\frac{1}{6} =$ _____
- *(30) $\sqrt{604243} =$ _____
- (31) Each interior angle of a regular octagon = _____ °
- (32) $A = \{1, 4, 9, 16, 25, m, n, 64\}$. $m + n =$ _____
- (33) A car travels 28 miles on a gallon of gas. How far can it travel on 15 gallons? _____ mi
- (34) If $n^3 = 2197$, then $n^2 + 31 =$ _____
- (35) $(3x - 4)^2 = ax^2 + bx + c$. $a + b + c =$ _____
- (36) $42^2 =$ _____
- (37) If $2x - y = 10$ and $3x + y = 10$, then $y^2 =$ _____
- (38) $996^2 =$ _____
- (39) The 6th pentagonal number is _____
- *(40) $47736 \div 249 =$ _____
- (41) $345_7 - 136_7 =$ _____₇
- (42) $104^\circ \text{F} =$ _____ °C

- (43) The sum of the prime divisors of 111 is _____
- (44) $47^2 - 53^2 =$ _____
- (45) The distance between the points (3,6) and (9, -2) is _____
- (46) The sum of the solutions to $|3x + 5| = 7$ is _____
- (47) $(18 + 9 \times 7) \div 4$ has a remainder of _____
- (48) $\left(\frac{9}{4}\right)^3 =$ _____ (mixed number)
- (49) If $f(x) = \sqrt{x - 124}$, then $f(800) =$ _____
- *(50) $(17)^4 =$ _____
- (51) $98 \times 107 =$ _____
- (52) $\frac{9!}{6!} \times (6)^{-2} =$ _____
- (53) If $2^{(x+y)} = 32$, then $(x + y)^4 =$ _____
- (54) $6^{-1} + 6^{-2} + 6^{-3} =$ _____
- (55) $\frac{3}{7}$ of a gallon = _____ cubic inches
- (56) The negative reciprocal of 3.2 is _____
- (57) $1008 \times 1006 =$ _____
- (58) $144 \times 12 =$ _____
- (59) If the area of a circle is 576π , then the diameter of the circle is _____
- *(60) The volume of a sphere with radius = 6 is _____
- (61) $19^2 + 38^2 =$ _____
- (62) The set {a,b,c,d,e} has _____ proper subsets
- (63) The sum of the 8th and 9th triangular numbers is _____
- (64) $\frac{11}{30} + \frac{11}{42} + \frac{11}{56} =$ _____
- (65) 90 mi/hr = _____ ft/sec
- (66) The larger root of $(2x - 3)^2 = \frac{4}{9}$ is _____
- (67) The measure of the central of a regular nonagon is _____ °
- (68) $12^3 - 11^3 =$ _____
- (69) If $f(x) = x^2 - 3$, then $f(f(5)) =$ _____
- *(70) $e^4 \times \pi^4 =$ _____
- (71) $(345_6) \times (2_6) =$ _____₆
- (72) $5^{(-3)} =$ _____ (decimal)
- (73) $\frac{8}{11} - \frac{25}{32} =$ _____
- (74) The first 4 digits of the decimal for $\frac{23}{30}$ is 0. _____
- (75) $1 + 1 + 2 + 3 + 5 + 8 + \dots + 34 + 55 =$ _____
- (76) Two dice are rolled. What are the odds that a sum of 9 was rolled? _____
- (77) If x and y are positive integers and if $x^2 + y^2 = 85$, $x > y > 0$, then $x + y =$ _____
- (78) The sum of the positive integral divisors of 48 is _____
- (79) If $f(x) = \frac{3x+10}{8}$, then $f^{-1}(-4) =$ _____
- *(80) $625 \div 833 \times 1460 =$ _____

2019-2020 TMSCA MSNS Test 9 Key

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| (1) 4012 | (22) 90.00 | (43) 40 | (63) 81 |
| (2) 2500 | (23) 5670 | (44) -600 | (64) $\frac{33}{40}$ |
| (3) $1\frac{2}{9}$ | (24) 225 | (45) 10 | (65) 132 |
| (4) 324 | (25) 322 | (46) $-3\frac{1}{3}$ or $-\frac{10}{3}$ | (66) $\frac{11}{6}$ or $1\frac{5}{6}$ |
| (5) 5896 | (26) 305 | (47) 1 | (67) 40 |
| (6) 4 | (27) $52\frac{1}{12}$ | (48) $11\frac{25}{64}$ | (68) 397 |
| (7) 5107 | (28) $\frac{8}{11}$ | (49) 26 | (69) 481 |
| (8) $\frac{7}{8}$ | (29) 57 | *(50) 79345-87697 | *(70) 5053-5584 |
| (9) 210 | *(30) 739-816 | (51) 10486 | (71) 1134 |
| *(10) 23924-26442 | (31) 135 | (52) 14 | (72) .008 |
| (11) 6384 | (32) 85 | (53) 625 | (73) $-\frac{19}{352}$ |
| (12) 30 | (33) 420 | (54) $\frac{43}{216}$ | (74) 7666 |
| (13) 8000 | (34) 200 | (55) 99 | (75) 143 |
| (14) 67 | (35) 1 | (56) $-\frac{5}{16}$ or $-.3125$ | (76) $\frac{1}{8}$ or .125 |
| (15) 9021 | (36) 1764 | (57) 1014048 | (77) 13 |
| (16) 41 | (37) 4 | (58) 1728 | (78) 124 |
| (17) $17.5, 17\frac{1}{2}, \frac{35}{2}$ | (38) 992016 | (59) 48 | (79) -14 |
| (18) $8\frac{5}{8}$ | (39) 51 | *(60) 860-950 | *(80) 1041-1150 |
| (19) 100 | *(40) 183-201 | (61) 1805 | |
| *(20) 110862-122530 | (41) 206 | (62) 31 | |
| (21) 16 | (42) 40 | | |