

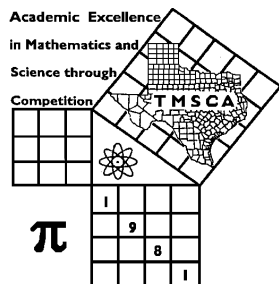
1st Score: _____	2nd Score: _____	3rd Score: _____	Final Score
Grader: _____	Grader: _____	Grader: _____	

PLACE LABEL BELOW

Name: _____ School: _____

SS/ID Number: _____ City: _____

Grade: 4 5 6 7 8 Classification: 1A 2A 3A 4A 5A 6A



TMSCA MIDDLE SCHOOL

NUMBER SENSE

TEST #4 ©

NOVEMBER 12, 2022

GENERAL DIRECTIONS

1. Write only the requested information on this coversheet. Do not make any additional marks on this cover sheet.
2. You will be given 10 minutes to take this test.
3. There are 80 problems on the test.
4. Write in ink only! It would be advantageous to use non-black ink.
5. Solve as many problems as you can in the order that they appear.
6. Problems that are skipped are considered wrong.
7. Problems that appear after the last attempted problem do not count either for or against you.
8. **ALL PROBLEMS ARE TO BE SOLVED MENTALLY!** [No scratch work!]
9. Only the answer may be written in the answer blank.
10. Starred [*] problems require approximate INTEGRAL answers that are within 5% of the exact answers. All other problems require exact answers.
11. All problems answered correctly are worth FIVE points. FOUR points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

2022-2023 TMSCA Middle School Number Sense Test 4

- (1) $428 - 119 =$ _____
- (2) $789 + 210 =$ _____
- (3) $146 \times 5 =$ _____
- (4) $6.5 - 0.56 =$ _____ (decimal)
- (5) $82\% =$ _____ (fraction)
- (6) $3542 \div 7 =$ _____
- (7) $2\frac{3}{8} =$ _____ (decimal)
- (8) $(26)^2 =$ _____
- (9) $12 + 4 \times 12 \div 6 =$ _____
- *(10) $88 + 517 + 2388 =$ _____
- (11) How many nickels are in \$3.50? _____
- (12) $44 \times 75 =$ _____
- (13) $37 \times 77 =$ _____
- (14) 35% of 40 is _____
- (15) $3\frac{3}{7} + 2\frac{2}{5} =$ _____ (mixed number)
- (16) The LCM of 30 and 42 is _____
- (17) $7\frac{1}{4} - 2\frac{5}{8} =$ _____ (mixed number)
- (18) $144 \times 12 =$ _____
- (19) $\frac{1}{16} =$ _____ (decimal)
- *(20) $89754 \div 457 =$ _____
- (21) The sum of the prime numbers between 41 and 51 is _____
- (22) $2 + 4 + 6 + 8 + \dots + 18 + 20 =$ _____
- (23) $(98)^2 =$ _____
- (24) 3 quarts = _____ ounces
- (25) 222 base 7 = _____ base 10
- (26) $25 \times 3\frac{2}{5} =$ _____
- (27) $753 \times 111 =$ _____
- (28) $222 \times \frac{2}{37} =$ _____
- (29) $0.212121\dots =$ _____ (fraction)
- *(30) $26 \times 30 \times 36 =$ _____
- (31) $(105)^2 =$ _____
- (32) $66 \times 74 =$ _____
- (33) If the perimeter of a square is 92, then the area is _____
- 34) Round $\sqrt{2}$ to the nearest hundredth. _____
- (35) $\sqrt[3]{2197} =$ _____
- (36) $\frac{5!}{7!} =$ _____ (fraction)
- (37) If $4x - 14 = 26$, then $x^3 =$ _____
- (38) If $\frac{6}{7} = \frac{4}{x}$, then $3x =$ _____
- (39) 50 is what percent less than 75? _____ %
- *(40) $71.4285 \times 350 =$ _____
- (41) $P = \{p, o, n, d, e, r\}$ and $L = \{l, i, o, n, s\}$. $P \cap L$ has _____ elements
- (42) $0.41666\dots =$ _____ (fraction)

(43) If $f(x) = x^2 - 4x + 4$, then $f(2.7) =$ _____

(44) $\{1, 3, 6, 10, 15, 21, 28, a, b, c, \dots\}$ $c =$ _____

(45) 27% of $144\frac{4}{9} =$ _____

(46) $654_8 + 222_8 - 765_8 =$ _____₈

(47) The third nonagonal number is _____

(48) $991 \times 997 =$ _____

(49) $\frac{4}{5} \times \frac{3}{8} \times \frac{5}{9} =$ _____ (fraction)

*(50) $5 \times e^5 =$ _____

(51) $107 \times 95 =$ _____

(52) 4 pints + 8 cups = _____ ounces

(53) $564738 \div 11$ has a remainder of _____

(54) $0.55666\dots =$ _____ (fraction)

(55) $8^{-2} + 8^{-1} =$ _____ (fraction)

(56) How many positive integers less than 54 are relatively prime to 54? _____

(57) The largest negative integral value of x such that $|x + 2| > 7$ is _____

(58) The probability of rolling a die and obtaining an odd number is _____

(59) $(102)^3 =$ _____

*(60) $4 \times \pi^4 =$ _____

(61) If $\frac{1}{5} + \frac{1}{8} = \frac{1}{x}$, then $x =$ _____

(62) The leg opposite the 60° angle in a right triangle = $6\sqrt{3}$. The hypotenuse = _____

(63) $1009 \times 1006 =$ _____

(64) The sum of three consecutive integers is 102. The smallest of these is _____

(65) $21 \times \frac{23}{27} =$ _____ (mixed number)

(66) $84 \times 15 =$ _____

(67) $1111 \times 43 =$ _____

(68) If $222_b = 42$, then $302_b =$ _____

(69) $\left(\frac{16}{49}\right)^{\frac{3}{2}} =$ _____ (fraction)

*(70) $11 \times 22 \times 33 =$ _____

(71) If $f(x) = 2x^3 - 9$, then $f(f(2)) =$ _____

(72) $12 + 9 + 6\frac{3}{4} + 5\frac{1}{16} + \dots =$ _____

(73) $(3)(7)(4)(13)(37) =$ _____

(74) $\frac{4}{15} + \frac{4}{35} + \frac{4}{63} =$ _____

(75) $8 + 3 + 11 + 14 + 25 + \dots + 167 + 270 =$ _____

(76) The first 4 digits of the decimal for $\frac{19}{33}$ are 0. _____

(77) 44 base 7 is _____ base 6

(78) If $4^{2x} = 676$, then $4^x =$ _____

(79) The smallest angle formed by the hands of a clock at 4:30 is _____ $^\circ$

*(80) The amount of interest on \$5000 at a 6% simple annual rate for 30 years is _____ dollars

- | | | | |
|-----------------------|---|---|-----------------------|
| (1) 309 | (22) 110 | (43) .49 or $\frac{49}{100}$ | (63) 1015054 |
| (2) 999 | (23) 9604 | (44) 55 | (64) 33 |
| (3) 730 | (24) 96 | (45) 39 | (65) $17\frac{8}{9}$ |
| (4) 5.94 | (25) 114 | (46) 111 | (66) 1260 |
| (5) $\frac{41}{50}$ | (26) 85 | (47) 24 | (67) 47773 |
| (6) 506 | (27) 83583 | (48) 988027 | (68) 50 |
| (7) 2.375 | (28) 12 | (49) $\frac{1}{6}$ | (69) $\frac{64}{343}$ |
| (8) 676 | (29) $\frac{7}{33}$ | * (50) 705–779 | (70) 7587–8385 |
| (9) 20 | * (30) 26676–29484 | (51) 10165 | (71) 677 |
| * (10) 2844–3142 | (31) 11025 | (52) 128 | (72) 48 |
| (11) 70 | (32) 4884 | (53) 9 | (73) 40404 |
| (12) 3300 | (33) 529 | (54) $\frac{167}{300}$ | (74) $\frac{4}{9}$ |
| (13) 2849 | (34) 1.41 | (55) $\frac{9}{64}$ | (75) 704 |
| (14) 14 | (35) 13 | (56) 18 | (76) 5757 |
| (15) $5\frac{29}{35}$ | (36) $\frac{1}{42}$ | (57) –10 | (77) 52 |
| (16) 210 | (37) 1000 | (58) $\frac{1}{2}$ or .5 | (78) 26 |
| (17) $4\frac{5}{8}$ | (38) 14 | (59) 1061208 | (79) 45 |
| (18) 1728 | (39) $33\frac{1}{3}$ or $\frac{100}{3}$ | * (60) 371–409 | * (80) 8550–9450 |
| (19) .0625 | * (40) 23750–26249 | (61) $\frac{40}{13}$ or $3\frac{1}{13}$ | |
| * (20) 187–206 | (41) 2 | (62) 12 | |
| (21) 90 | (42) $\frac{5}{12}$ | | |