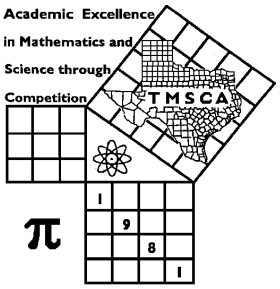
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #5©

DECEMBER 2, 2023

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.

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2023-2024 TMSCA Middle School Number Sense Test 5

(1) $2348 + 999 =$_____

(2) $68 - 38 + 56 - 36 + 28 - 8 =$_____

(3) $\frac{9}{10} - \frac{3}{5} =$ _____ **(fraction)**

(4) $51 \times 12 =$ _____

(5) $2024 \times 25 =$ _____

(6) $5314 \div 11$ **has a remainder of** _____

(7) $17^2 =$_____

(8) $\frac{11}{13} \times 52 =$ _____

(9) $6(3) + 6(13) + 6(14) =$ _____

***(10)** $485 - 1828 + 2025 =$_____

(11) $86 \times 84 =$ _____

(12) $45 \times 16 =$ _____

(13) $-75^2 =$ _____

(14) The LCM of 18 and 24 is _____

(15) 12 is what percent of 48? _____**%**

(16) $\frac{1}{4} + \frac{5}{6} =$ _____

(17) $8\frac{2}{3} \times 9\frac{3}{8} =$ _____**(mixed number)**

(18) $150 \div 2.5 =$_____

(19) MLX + IX = _____**(Arabic number)**

***(20)** $495 \times 3.18 =$ _____

(21) $111 \times \frac{12}{37} =$_____

(22) $83 \times 77 =$ _____

(23) $4\frac{3}{7} \times 4\frac{4}{7} =$ _____**(mixed number)**

(24) The product of the GCF and LCM of 18 and 22 is _____

(25) $\sqrt[3]{1331} =$ _____

(26) The multiplicative inverse of $\frac{40}{7} =$_____**(decimal)**

(27) 12% of 22 is _____**(decimal)**

(28) $57 \div 7 + 15 - 1 \div 7 =$_____

(29) $103 \times 108 =$ _____

***(30) 62.5% of 8524 =** _____

(31) The cube root of 512 = _____

(32) The sum of the distinct prime divisors of 72 is _____

(33) $73^2 - 27^2 =$ _____

(34) 12.257 meters =_____**cm (decimal)**

(35) $3520167 \div 8$ **has a remainder of** _____

(36) $68^2 + 27^2 =$ _____

(37) If $x^2 = 25$ **and** $x < 0$**, then** $x^3 =$_____

(38) The total cost of a \$107 item with a sales tax rate of 8% is \$_____

(39) .3222… = _____**(fraction)**

***(40)** $\sqrt{315} \times \sqrt{285} =$_____

(41) $\frac{4^3}{(2^3)(5^3)} =$ **=** _____**(decimal)**

(42) $\frac{5}{6} - \frac{6}{5} =$ _____**(fraction)**

(43) $\sqrt[3]{12167} =$_____

(44) $2 + 4 + 6 + \cdots + 24 =$ _____

(45) $444 \times \frac{12}{37} =$ _____

(46) 18% of 46 is 36% of _____

(47 The 5th hexagonal number = _____

(48) 30% **of** $133\frac{1}{3} =$ _____

(49) The interior angle of a regular hexagon measures _____^{0}

***(50) The length of the diagonal of a square with area 6400 =** _____

(51) $97^2 =$ _____

(52) $29193 \div 111 =$ _____

(53) $15 \times \frac{14}{13} =$ _____ **(mixed number)**

(54) $(123_5)(4_5) =$ _____$_5$

(55) $\frac{3}{11}$ **of a gallon =** _____ **cubic inches**

(56) $(304)^2 =$ _____

(57) If $(2x - 5)(3x + 1) = ax^2 + bx + c$**, then** $b =$ _____

(58) $\frac{8!}{5!4!} =$ _____

(59) $3\sqrt{5} \cdot 4\sqrt{5} =$ _____

***(60)** $\pi^5 \cdot e^3 =$ _____

(61) The sum of the coefficients of $(2x + 3)^2 =$ _____

(62) The first 4 digits of $\frac{4}{15}$ **are 0.** _____

(63) The distance between $(-2, 5)$ **and** $(3, -7)$ **is** _____

(64) If the odds of winning is $\frac{1}{6}$**, then the probability of losing is** _____

(65) The slope of the line perpendicular to $3x - 2y = 8$ **is** _____

(66) $16 \times 18 + 1 =$ _____

(67) $12^2 + 36^2 + 12^2 + 24^2 =$ _____

(68) If $1 + 3 + 5 + \ldots + 49 = k^2$**, then** $k =$ _____

(69) The simple interest on \$900 at a rate of 6% for 8 months is \$ _____

***(70)** $45^3 =$ _____

71) If P and Q are roots of $2x^2 - 5x + 6 = 0$**, then PQ + (P+Q) =** _____

(72) $31^2 + 39 =$ _____

(73) The number of positive integral divisors less than 24 that are relatively prime to 24 is _____

(74) $2024 \times 101 =$ _____

(75) $5^8 \div 6$ **has a remainder of** _____

(76) $42 \div .58333 \ldots =$ _____

(77) The sum of the reciprocals of the first 10 triangular numbers is _____

(78) $log_3 9^2 =$ _____

(79) The sum of the positive integers x **such that** $3x - 1 < 20$ **is** _____

***(80) 448 square miles =** _____ **acres**

2023-2024 TMSCA MSNS Test 5 Key

(1) 3347

(2) 70

(3) $\frac{3}{10}$

(4) 612

(5) 50600

(6) 1

(7) 289

(8) 44

(9) 180

***(10) $648 - 716$**

(11) 7224

(12) 720

(13) -5625

(14) 72

(15) 25

(16) $\frac{13}{12}$ or $1\frac{1}{12}$

(17) $81\frac{1}{4}$

(18) 60

(19) 1069

***(20) $1496 - 1652$**

(21) 36

(22) 6391

(23) $20\frac{12}{49}$

(24) 396

(25) 11

(26) .175

(27) 2.64

(28) 23

(29) 11124

***(30) $5062 - 5593$**

(31) 8

(32) 5

(33) 4600

(34) 1225.7

(35) 7

(36) 5353

(37) -125

(38) 115.56

(39) $\frac{29}{90}$

***(40) $285 - 314$**

(41) .064

(42) $-\frac{11}{30}$

(43) 23

(44) 156

(45) 144

(46) 23

(47) 45

(48) 40

(49) 120

***(50) $108 - 118$**

(51) 9409

(52) 263

(53) $16\frac{2}{13}$

(54) 1102

(55) 63

(56) 92416

(57) -13

(58) 14

(59) 60

***(60) 5840 – 6453**

(61) 25

(62) 2666

(63) 13

(64) $\frac{6}{7}$

(65) $-\frac{2}{3}$

(66) 289

(67) 2160

(68) 25

(69) 36.00

***(70) 86569 – 95681**

(71) 5.5, $5\frac{1}{2}$, $\frac{11}{2}$

(72) 1000

(73) 8

(74) 204424

(75) 1

(76) 72

(77) $\frac{20}{11}$ or $1\frac{9}{11}$

(78) 4

(79) 21

***(80) 272384 – 301056**