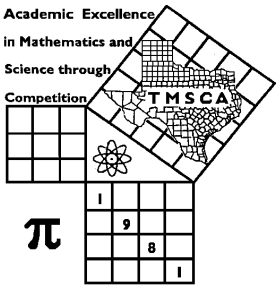
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #4©

NOVEMBER 11, 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.

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

2023-2024 TMSCA Middle School Number Sense Test 4

(1) $517 - 159 =$ _____

(2) $27 \times 9 =$ _____

(3) $22^2 =$ _____

(4) $11.5 - .26 =$ _____ **decimal**

(5) $35287 \div 7 =$ _____

(6) $.555\ldots =$ _____ **fraction**

(7) $255 \div 17 =$ _____

(8) $83 \times 87 =$ _____

(9) $23 \times 83 =$ _____

***(10)** $3245 + 17126 - 538 =$ _____

(11) $3\frac{1}{2} \times 38 =$ _____

(12) $48 \times 75 =$ _____

(13) $107 \times 10.6 =$ _____ **decimal**

(14) $15 \times 24 =$ _____

(15) $42 \times 12 =$ _____

(16) The GCF of 42 and 91 is _____

(17) The product of the LCM and GCF of 75 and 124 = _____

(18) $6\frac{2}{3} \times 6\frac{1}{3} =$ _____ **(mixed number)**

(19) $23 \times 10101 =$ _____

***(20)** $632 \times 311 =$ _____

(21) $96 \times 97 =$ _____

(22) CXV + IX = _____ **(Arabic numeral)**

(23) $15 \times 8\frac{1}{3} =$ _____

(24) $47 \times 53 =$ _____

(25) The sum of the smallest 6 positive even integers = _____

(26) The largest prime divisor of 143 = _____

(27) 2 kilometers = _____ **meters**

(28) $17^2 + 34^2 =$ _____

(29) $3! + 4! + 5! =$ _____

***(30) 15 gallons =** _____ **ounces**

(31) 56 has how many positive integral divisors? _____

(32) $\frac{27}{40} =$ _____ **(decimal)**

(33) 12 pecks = _____ **bushel**

(34) If 11 pens cost $4.95, then 7 pens cost $ _____

(35) $\frac{19}{22} + \frac{22}{19} =$ _____ **(mixed number)**

(36) The area of a right triangle with a leg of 4 and a hypotenuse of 5 = _____

(37) $\sqrt{1764} =$ _____

(38) 12.5% **of** $488 =$ _____

(39) If $\frac{8}{9} = \frac{3}{x}$, **then** $4x =$ _____

***(40)** $\sqrt{265917} =$ _____

(41) 35% of 76 is 70% of ? _____

(42) If M = $\{l, i, o, n, s\}$ $and\ N = \{s, n, a, i, l\}$, $then\ M \cap N\ has$ _____ **elements**

(43) $6\ yd^3 =$ _____ **ft.**^{3}

(44) $.8333\ldots =$ _____**fraction**

(45) If $f(x) = x^2 - 6x + 9$**, then** $f(4.6) =$ _____**(decimal)**

(46) $1002 \times 1003 =$ _____

(47 $5\frac{4}{5} \times 6\frac{1}{5} =$ _____**(mixed number)**

(48) If $f(x) = \sqrt{2x+5}$**, then** $f^{-1}(3) =$ _____

(49) $1011_2 =$ _____**(base 8)**

***(50)** $\sqrt[3]{22567} =$_____

(51) $105 \times 98 =$ _____

(52) $\frac{27}{23} \times 27 =$ _____**(mixed number)**

(53) If $f(x) = 37x$**,**
then $f(19) + f(14) =$ _____

(54) If the circle
$(x-3)^2 + (y+5)^2 = 81$
has a center at (h,k), then k = _____

(55) $7^{-3} + 7^{-2} + 7^{-1} =$_____ **(fraction)**

(56) $5^6 \times 2^4 =$ _____

(57) The first 4 digits of the expansion of $\frac{17}{90}$ **are 0.** _____

(58) The geometric mean of 2, 4 and 8 = _____

(59) If $\sqrt{117} + \sqrt{52} = k\sqrt{13}$**, then** $k =$ _____

***(60)** $20 \times 21 \times 22 \times 23 =$_____

(61) If $\frac{1}{7} + \frac{2}{9} = \frac{1}{x}$**, then** $x =$ _____

(62) $53^2 + 25^2 =$ _____

(63) The odds of rolling a 5 when rolling a pair of dice = _____**(decimal %)**

(64) The total degrees of the exterior angles of a 19-sided polygon = _____^{0}

(65) 45 mph = _____**ft./sec.**

(66) The positive acute angle formed by the hands on a clock at $2:20 =$_____^{0}

(67) The surface area of a sphere with a radius of 9 inches =_____$\pi\ in^2$

(68) If the height of an equilateral triangle is $17\sqrt{3}$**, then the side length =** _____

(69) How many diagonals can be drawn from all vertices of a 24-sided polygon?_____

***(70) The volume of a cube with edge 9.5 inches =** _____$in.^3$

71) $3(7)(13)(11) =$ _____

(72) If $f(x) = x^2 - 2x + 7$ **has a vertex (h,k), then k =** _____

(73) If in a 30-60-90 degree triangle, the hypotenuse is 27, the side opposite the 30^0 angle = _____

(74) If the two legs of a right triangle are 7 and 24, then the semi-perimeter = _____

(75) If $f(x) = 2x^3 - 5$**, then** $f(f(2)) =$_____

(76) 35(base 7) = _____**(base 8)**

(77) $24^2 - 22^2 + 20^2 - 18^2 =$ _____

(78) The amount of interest on \$4000 at a 6% simple annual rate for 4 months = \$ _____

(79) If $7^x = 13$**, then** $7^{x-1} =$ _____

***(80)** $(525)^{\frac{3}{2}} =$ _____

2023 - 2024 TMSCA MSNS Test 4 Key

(1) 358

(2) 243

(3) 484

(4) 11.24

(5) 5041

(6) $\frac{5}{9}$

(7) 15

(8) 7221

(9) 1909

***(10)** $18842 - 20824$

(11) 133

(12) 3600

(13) 1134.2

(14) 360

(15) 504

(16) 7

(17) 9300

(18) $42\frac{2}{9}$

(19) 232323

***(20)** $186725 - 206379$

(21) 9312

(22) 124

(23) 125

(24) 2491

(25) 42

(26) 13

(27) 2000

(28) 1445

(29) 150

***(30)** $1824 - 2016$

(31) 8

(32) .675

(33) 3

(34) 3.15

(35) $2\frac{9}{418}$

(36) 6

(37) 42

(38) 61

(39) $\frac{27}{2}, 13\frac{1}{2}, 13.5$

***(40)** $490 - 541$

(41) 38

(42) 4

(43) 162

(44) $\frac{5}{6}$

(45) 2.56

(46) 1005006

(47) $35\frac{24}{25}$

(48) 2

(49) 13

***(50) 27 – 29**

(51) 10290

(52) $31\frac{16}{23}$

(53) 1221

(54) -5

(55) $\frac{57}{343}$

(56) 250000

(57) 1888

(58) 4

(59) 5

***(60)** $201894 - 223146$

(61) $\frac{63}{23}, 2\frac{17}{23}$

(62) 3434

(63) 12.5

(64) 360

(65) 66

(66) 50

(67) 324

(68) 34

(69) 252

***(70)** $815 - 900$

(71) 3003

(72) 6

(73) 13.5, $13\frac{1}{2}, \frac{27}{2}$

(74) 28

(75) 2657

(76) 32

(77) 168

(78) 80.00

(79) $\frac{13}{7}, 1\frac{6}{7}$

***(80)** $11428 - 12630$