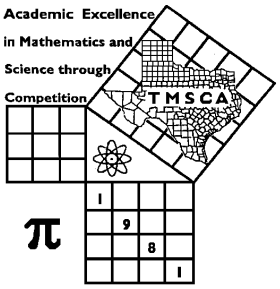
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #2©

OCTOBER 28, 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 2

(1) $2158 + 3242 =$_____

(2) $967 - 769 =$_____

(3) $25 \; x \; 33 =$ _____

(4) $65^2 =$_____

(5) $10 + 12 + 14 + 16 + 18 =$_____

(6) $12 \; x \; (3^2 - 1) \div 4 =$_____

(7) $\frac{5}{7} x \; 63 =$_____

(8) $53 \; x \; 57 =$_____

(9) $\frac{7}{9} \; x \; 999 =$_____

***(10)** $2023 \; x \; 12 + 7125 =$_____

(11) Which is greater? $.56 \; or \; \frac{5}{9}$ _____

(12) $36 \; x \; 12\frac{1}{2} =$_____

(13) 5 **pints** $+ 1$ **cup** $=$ _____**cups**

(14) $21^2 =$ _____

(15) 47 x 31 =_____

(16) $\frac{4}{7} + \frac{11}{14} =$_____**(mixed number)**

(17) The complement of a 72^0 **angle is**_____^{0}

(18) The median of 2,3,4,7 is _____

(19) 391 x 101 = _____

***(20)** $214 \; x \; 333 + 125 =$_____

(21) $48 \; x \; 3.5 =$_____

(22) $78 \; x \; .333 \ldots =$ _____

(23) The cube root of 343 =_____

(24) The multiplicative inverse of 1.7 is _____

(25) There are _____ **composite numbers less than 13.**

(26) $2^6 \; x \; 5^5 =$ _____

(27) $\frac{9!}{7!2!} =$_____

(28) $\frac{3}{7}$ **of a gallon =**_____**cubic inches**

(29) If $7x + 4 = 88$**, then** $x =$_____

***(30) The area of a circle with a radius of 14 inches is** _____**in**^{2}

(31) If the largest angle in an isosceles triangle is 96^0**, then the measure of the smallest angle is** _____^{0}

(32) $\frac{7}{8} - \frac{1}{5} =$_____

(33) $1111^2 =$ _____

(34) $\frac{5}{8} + \frac{8}{5}$_____**(mixed number)**

(35) $\frac{16}{17} \; x \; 16 =$_____**(mixed number)**

(36) $47 \; x \; 12 - 32 \; x \; 12 =$ _____

(37) $16^2 + 32^2 =$_____

(38) If $\frac{9}{x} = \frac{15}{8}$**, then** $x =$_____

(39) If $5x + 11 = 41$**, then** $x^3 =$ _____

***(40)** 35% **of** $35^2 =$ _____

(41) 3 square miles = _____**acres**

(42) 97 x 102 = _____

(43) The sum of the integral divisors of 24 is_____

(44) 56_8 **=_____(base 10)**

(45) 111011_2 **=_____** 8

(46) The slope of the line that has a y-intercept of 3 and an x-intercept of 2 is _____

(47) $1 + 3 + 5 + \cdots + 49 =$ **_____**

(48) If $f(x) = \frac{63}{x}$**, then** $f\left(\frac{1}{11}\right) =$ **_____**

(49) $-19^2 =$**_____**

***(50) The sum of the interior angles of a 43-sided polygon is _____**

(51) $45_7 \div 3_7 =$ **_____** 7

(52) 35^0 **C = _____degrees F**

(53) The acute angle formed by the hands of a clock at 3:20 is **_____(degrees)**

(54) The odds of rolling an 11 on a pair of dice is**_____**

(55) $12\ x\ 1234 =$**_____**

(56) $\{m, a, t, h\}$ **has _____subsets**

(57) "HELLO" has _____number of distinct arrangements.

(58) $(3^2 + 6^2 + 8^2) \div 9$ **has a remainder of _____**

(59) $\sqrt{48(42) + 9}$ **= _____**

***(60)** $2.25\ x\ 495 =$**_____**

(61) $33 \times \frac{37}{39} =$ **_____ (mixed number)**

(62) The smallest palindrome larger than 398 is _____

(63) How many digits are in the product $2^4 x\ 5^3 x\ 7^2$**?_____**

(64) $.351351351\ldots =$ **_____(fraction)**

(65) If $f(x) = 2x^2 + 3$**, then** $f(19) - f(9) =$ **_____**

(66) If a regular polygon has a side length of 17 cm and an exterior angle of 60^0, then its perimeter is _____cm

(67) The sum of the integral solutions of $|x - 4| + 3 \leq 10$ **is_____**

(68) $(304)^2 =$ **_____**

(69) If $214_b = 109$**, then** $132_b =$**_____**

***(70)** $3128\ x\ .428571 =$**_____**

71) $12 + 9 + 6\frac{3}{4} + 5\frac{1}{16} + \cdots =$**_____**

(72) If x = 9 and y = 5, then $x^2 + 2xy + y^2 =$**_____**

(73) How many positive integers are relatively prime to 30? _____

(74) If (x, y) **is the midpoint of the segment with endpoints** $(-5, -8)$ **and** $(6, 10)$**, then** $x + y =$ **_____**

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

(76) $1^3 + 2^3 + 3^3 + \cdots 7^3 =$ **_____**

(77) $\frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} =$**_____(fraction)**

(78) If a trapezoid has an area of 56 in^2 and a height of 7 in, then the median is _____ in

(79) If $\sqrt[3]{7x - 1} = 6$ **then** $x =$**_____**

***(80) 640 square miles = _____ acres**

23-24 TMSCA MSNS Test 2 Key

(1) 5400

(2) 198

(3) 825

(4) 4225

(5) 70

(6) 24

(7) 45

(8) 3021

(9) 777

***(10)** $29831 - 32971$

(11) .56

(12) 450

(13) 11

(14) 441

(15) 1457

(16) $1\frac{5}{14}$

(17) 18

(18) 3.5 or $\frac{7}{2}$ **or** $3\frac{1}{2}$

(19) 39491

***(20)** $67818 - 74956$

(21) 168

(22) 26

(23) 7

(24) $\frac{10}{17}$

(25) 6

(26) 200000

(27) 36

(28) 99

***(30)** $585 - 646$

(31) 42

(32) $\frac{27}{40}$ **or .675**

(33) 1234321

(34) $2\frac{9}{40}$

(35) $15\frac{1}{17}$

(36) 180

(37) 1280

(38) 4.8 or $\frac{24}{5}$ **or** $4\frac{4}{5}$

(39) 216

***(40)** $408 - 450$

(41) 1920

(42) 9894

(43) 60

(44) 46

(45) 73

(46) $-\frac{3}{2}$ **or** -1.5 **or** $-1\frac{1}{2}$

(47) 625

(48) 693

(49) -361

***(50)** $7011 - 7749$

(51) 14

(52) 95

(53) 20

(54) $\frac{1}{17}$

(55) 14808

(56) 16

(57) 60

(58) 1

(59) 45

***(60)** $1059 - 1169$

(61) $31\frac{4}{13}$

(62) 404

(63) 5

(64) $\frac{13}{37}$

(65) 560

(66) 102

(67) 60

(68) 92416

(69) 72

***(70)** $1274 - 1407$

(71) 48

(72) 196

(73) 8

(74) 1.5 or $1\frac{1}{2}$ **or** $\frac{3}{2}$

(75) 42

(76) 784

(77) $\frac{1}{8}$

(78) 8

(79) 31

***(80)** $389120 - 430080$