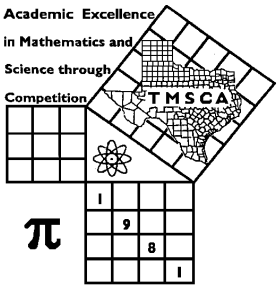
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 9, 2024

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 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.
12. **TEST SHOULD FLIP COMPLETELY OVER FOR PROBLEM #1.**

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(43) {1, 3, 6, 10, 15, a, b, c…}, c=_____

(44) $143 \times 56 =$ _____

(45) The largest negative integral value of x in $|5x - 2| > 13$ is _____

(46) The 4th hexagonal number is _____

(47) {7, 4, 11, 15, 26, m, n, 108}, m + n _____

(48) If $f(x) = 2x^2 - 3x + 5$, the equation of the axis of symmetry is $x =$ _____

(49) $106 \times 97 =$ _____

***(50)** $7\pi^5 =$ _____

(51) $456_7 + 231_7 - 143_7 =$ _____$_7$

(52) If $f(x) = x^2 - 13$ has roots P and Q, then P + Q = _____

(53) $16^2 + 16 =$ _____

(54) $\sqrt[3]{3375} =$ _____

(55) $72372 \div 111 =$ _____

(56) $17^2 - 14^2 + 11^2 - 8^2 =$ _____

(57) The 16th triangular number is _____

(58) $101011_2 =$ _____$_8$

(59) $5\frac{3}{4} \times 8\frac{2}{5} =$ _____(mixed number)

***(60)** $2\frac{1}{9} \times 81\frac{3}{5} \div 4.5 =$ _____

(61) The sum of the coefficients of $(3x - 5y)^2$ is _____

(62) $432_5 \times 3_5 =$ _____$_5$

(63) $35 \div 0.41666\ldots =$ _____

(64) 15% of $366\frac{2}{3} =$ _____

(65) The first 4 digits of $\frac{18}{33} = 0.$_____

(66) $1111 \times 53 =$ _____

(67) The sum of 4 consecutive even integers is 340, the largest of these is _____

(68) If $f(x) = 2x^2 - 19, f(11) - f(7) =$ ____

(69) $68^2 + 27^2 =$ _____

***(70)** The diagonal of a square which has an area of 360 in^2 is _____ in

(71) The probability of getting a triangular number when rolling one die is _____

(72) $555 \times \frac{12}{37} =$ _____

(73) The smallest angle of the hands of a clock at 10:30 is _____°

(74) The arithmetic sequence 7, 16, 25, 34, …,79 has _____ terms

(75) The sum of the integral solutions of $|4x - 8| \leq 16$ is _____

(76) $(3)(7)(13)(37)(27) =$ _____

(77) $48 \times 0.91666\ldots =$ _____

(78) If the inner diagonal of a rectangular prism with dimensions 6 cm, 8 cm, 10 cm is $\sqrt{k}$, then $k =$ _____

(79) $\frac{11}{16} - \frac{34}{47} =$ _____

***(80)** The volume of a square pyramid with each base edge = 17 in. and height = 17 in. is _____in.^{3}

2024-2025 TMSCA Middle School Number Sense Test 4

(1) $527 - 218 =$ _____

(2) $2.5 \times 0.3 =$ _____(decimal)

(3) $213 \times 50 =$ _____

(4) $22 \times 23 =$ _____

(5) $\frac{11}{4} =$ _____ (decimal)

(6) $18 + 23 + 28 =$ _____

(7) $\frac{6}{11} - \frac{3}{5} =$ _____

(8) 70% of 90 less 3 $=$ _____

(9) $72 \times 78 =$ _____

*(10) $3285 + 468 + 512 =$ _____

(11) 1 square mile = _____acres

(12) $25 \times 49 =$ _____

(13) $125 \times 96 =$ _____

(14) $8\frac{1}{5} - 5\frac{3}{10} =$ _____

(15) $132 \times 12 =$ _____

(16) $1\frac{3}{8}\% =$ _____ (fraction)

(17) XC + CX $=$ _____(Arabic numeral)

(18) $2\frac{1}{2} \times 4\frac{1}{2} =$ _____(mixed number)

(19) $23 \times 101 =$ _____

*(20) $11825 \div 57 =$ _____

(21) $A = \{2, 4, 6, 8, 10\}$ $B = \{1, 2, 3, 4, 5\}$, $A \cap B$ has _____elements

(22) What is 6% tax on $135.00? $_____

(23) $28^2 - 27^2 =$ _____

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

(25) The multiplicative inverse of 0.666… is _____

(26) The vertex angle of an isosceles triangle is $54°$, then each base angle is _____degrees

(27) If $4x + 5 = 17$, then $2x =$ _____

(28) The area of a rhombus with diagonals 24 cm and 30 cm is _____ cm²

(29) $2025 \div 25 =$ _____

*(30) $\sqrt{56} \times \sqrt{85} \times \sqrt{123} =$ _____

(31) $12_3 + 12_3 =$ _____$_3$

(32) There are _____ prime numbers less than 100

(33) $998 \times 997 =$ _____

(34) The sum of the positive integral divisors of 12 is _____

(35) The sum of the smallest 13 positive even integers is _____

(36) 2.5 gallons $=$ _____ ounces

(37) $\frac{1}{7} + \frac{1}{14} + \frac{1}{21} =$ _____

(38) $13^3 =$ _____

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

*(40) $59284 \div 20.9 =$ _____

(41) $0.3444\ldots =$ _____(fraction)

(42) A car travels 32 miles on one gallon of gas. How far can it travel on 28 gallons?_____miles

24-25 TMSCA MSNS Test 4 Key

(1) 309

(2) $.75$

(3) 10650

(4) 506

(5) 2.75

(6) 69

(7) $-\frac{3}{55}$

(8) 60

(9) 5616

(10) $4052-4478$

(11) 640

(12) 1225

(13) 12000

(14) $2\frac{9}{10}, \frac{29}{10}, 2.9$

(15) 1584

(16) $\frac{11}{800}$

(17) 200

(18) $11\frac{1}{4}$

(19) 2323

(20) $198-217$

(21) 2

(22) 8.10

(23) 55

(24) 7

(25) $\frac{3}{2}, 1\frac{1}{2}, 1.5$

(26) 63

(27) 6

(28) 360

(29) 81

(30) $727-803$

(31) 101

(32) 25

(33) 995006

(34) 28

(35) 182

(36) 320

(37) $\frac{11}{42}$

(38) 2197

(39) .081

(40) $2695-2978$

(41) $\frac{31}{90}$

(42) 896

(43) 36

(44) 8008

(45) -3

(46) 28

(47) 108

(48) $\frac{3}{4}, .75$

(49) 10282

(50) $2036-2249$

(51) 544

(52) 0

(53) 272

(54) 15

(55) 652

(56) 150

(57) 136

(58) 53

(59) $48\frac{3}{10}$

(60) $37-40$

(61) 4

(62) 2401

(63) 84

(64) 55

(65) 5454

(66) 58883

(67) 88

(68) 144

(69) 5353

(70) $26-28$

(71) $\frac{1}{2}$

(72) 180

(73) 135

(74) 9

(75) 18

(76) 272727

(77) 44

(78) 200

(79) $-\frac{27}{752}$

(80) $1556-1719$