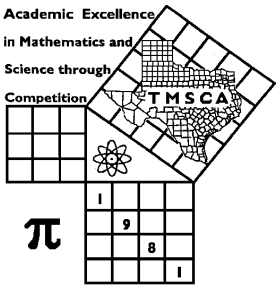
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #9©

JANUARY 29, 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.

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2021-2022 TMSCA Middle School Number Sense Test 9

(1) $624 + 264 =$ _____

(2) $345 - 545 =$ _____

(3) $19.2 - 5.7 =$ _____ **(decimal)**

(4) $468 \times 11 =$ _____

(5) $47 + 50 + 53 =$ _____

(6) $83\frac{1}{3}\% =$ _____ **(fraction)**

(7) $4.8 \times 2.5 =$ _____

(8) $21^2 =$ _____

(9) $\frac{11}{12} - \frac{2}{3} =$ _____

***(10)** $912 + 876 + 225 =$ _____

(11) 45 is what percent of 60? _____%

(12) $9\frac{3}{4} \times 8\frac{2}{3} =$ _____ **(mixed number)**

(13) $6573 \div 9$ has a remainder of _____

(14) $84 \times 86 =$ _____

(15) $36.1 \div 19 =$ _____ **(decimal)**

(16) $35 \times 85 =$ _____

(17) $4.8 \times 6.8 =$ _____ **(decimal)**

(18) The median of 56, 54, 46, and 52 is _____

(19) The GCF of 35 and 49 is _____

***(20)** $56.75 \times 162 =$ _____

(21) $5\frac{3}{7} \times 5\frac{4}{7} =$ _____ **(mixed number)**

(22) $0.456456456\ldots =$ _____ **(fraction)**

(23) $(93)^2 =$ _____

(24) What is 4% tax on $42.00? $_____

(25) 4 gallons plus 4 pints = _____ quarts

(26) $\frac{3}{4} \times \frac{16}{21} =$ _____ **(fraction)**

(27) The multiplicative inverse of 3.6 is _____

(28) The largest prime divisor of 260 is _____

(29) $\frac{3}{5} + \frac{3}{10} + \frac{3}{20} =$ _____ **(mixed number)**

***(30)** $45 \times 19 + 21 \times 47 =$ _____

(31) $98 \times 104 =$ _____

(32) $76 \times 84 =$ _____

(33) Find the smallest integer k, where $k > 1$, such that $4k + 7$ is a prime number _____

34) If $7x + 9 = 30$, then $4x + 8 =$ _____

(35) The slope of the line $4x + 9y = 7$ is _____

(36) Two numbers have a sum of 40, a product of 375, and a positive difference of _____

(37) How many integers between 36 and 72 are divisible by 5? _____

(38) $\sqrt{289} + \sqrt{529} =$ _____

(39) $\sqrt[3]{2744} =$ _____

***(40)** $45297 \div 14.3 =$ _____

(41) The product of the coefficients of $(3x - y)^2$ is _____

(42) 72 base 10 = _____ base 6

(43) $12 \times 404 =$ _____

(44) $\frac{23}{40} =$ _____ **(decimal)**

(45) $F = \{3,1,4,5,9,14,23,m,n\}$. $m + n =$ _____

(46) $17^2 + 17 =$ _____

(47) $553_6 + 435_6 =$ _____$_6$

(48) The larger root of $(2x-1)^2 = \frac{9}{16}$ is _____

(49) $\frac{8!}{6!2!} =$ _____

***(50)** $62.5 \times 490 =$ _____

(51) $8^{-3} + 8^{-2} + 8^{-1} =$ _____

(52) 90 mph = _____ ft/s

(53) $(707)^2 =$ _____

(54) $888 \times \frac{3}{37} =$ _____

(55) If the midpoint of the line segment with endpoints $(-2, 8)$ and $(-4, 6)$ is (a, b), then $a + b =$ _____

(56) $201121_3 =$ _____$_9$

(57) $36 \times 1111 =$ _____

(58) $\frac{8}{13} - \frac{25}{38} =$ _____

(59) $(115)^2 =$ _____

***(60)** $\sqrt[3]{175222} =$ _____

(61) If $235_b = 95$, then $123_b =$ _____

(62) The third octagonal number is _____

(63) If the roots of $3x^2 + 33x + 90 = 0$ are P and Q, then $PQ + (P + Q) =$ _____

(64) If $18^8 \div 4 = \left(2^x\right)\left(3^y\right)$, then $x + y =$ _____

(65) $28 \times 36 =$ _____

(66) The sum of the negative integers x such that $4x + 7 \geq -14$ is _____

(67) If the odds of losing are $\frac{7}{11}$, then the probability of winning is _____

(68) The first 4 digits of the decimal for $\frac{17}{30}$ are 0._____

(69) $35^2 + 36^2 =$ _____

***(70)** $\pi^4 \times e^2 =$ _____

(71) $4+10+16+22+...+52 =$ _____

(72) $4.363636\ldots =$ _____ **(mixed number)**

(73) If $f(x) = \frac{5x+1}{3} - 12$, then $f^{-1}(5) =$ _____

(74) $19^2 - 18^2 + 17^2 - 16^2 =$ _____

(75) $36 \times 0.41666... =$ _____

(76) The sum of the 20th triangular number and the 21st triangular number is _____

(77) If m and n are natural numbers, and $3\frac{2}{m} \times n\frac{2}{5} = 14$, then m + n = _____

(78) $2+5+7+12+19+...+131+212 =$ _____

(79) The volume of a cone is 720π in^3. If the diameter is 24 in, then the height is _____ in

***(80)** My rectangular "kiddie pool" measures 3 ft by 4 ft and is 2 ft deep. If it completely full, it holds _____gal

2021-2022 TMSCA MSNS Test 9 Key

(1) 888

(2) -200

(3) 13.5

(4) 5148

(5) 150

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

(7) 12

(8) 441

(9) $\frac{1}{4}$ or .25

***(10)** $1913-2113$

(11) 75

(12) $84\frac{1}{2}$

(13) 3

(14) 7224

(15) 1.9

(16) 2975

(17) 32.64

(18) 53

(19) 7

***(20)** $8734-9653$

(21) $30\frac{12}{49}$

(22) $\frac{152}{333}$

(23) 8649

(24) 1.68

(25) 18

(26) $\frac{4}{7}$

(27) $\frac{5}{18}$

(28) 13

(29) $1\frac{1}{20}$

***(30)** $1750-1934$

(31) 10192

(32) 6384

(33) 3

(34) 20

(35) $-\frac{4}{9}$

(36) 10

(37) 7

(38) 40

(39) 14

***(40)** $3010-3326$

(41) -54

(42) 200

(43) 4848

(44) .575

(45) 97

(46) 306

(47) 1432

(48) $\frac{7}{8}$ or .875

(49) 28

***(50)** $29094-32156$

(51) $\frac{73}{512}$

(52) 132

(53) 499849

(54) 72

(55) 4

(56) 647

(57) 39996

(58) $-\frac{21}{494}$

(59) 13225

***(60)** $54-58$

(61) 51

(62) 21

(63) 19

(64) 22

(65) 1008

(66) -15

(67) $\frac{11}{18}$

(68) 5666

(69) 2521

***(70)** $684-755$

(71) 252

(72) $4\frac{4}{11}$

(73) 10

(74) 70

(75) 15

(76) 441

(77) 15

(78) 550

(79) 15

***(80)** $171-188$