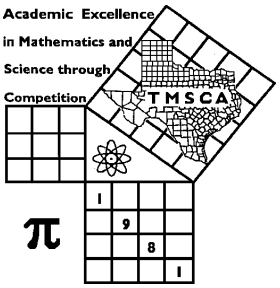
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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

GEAR-UP ©

DECEMBER 5, 2021

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 Gear Up Test

(1) $2022 + 4044 =$ _____

(2) $637 - 335 =$ _____

(3) $42 \times 15 =$ _____

(4) $56\% =$ _____ (fraction)

(5) $\frac{7}{8} =$ _____ (decimal)

(6) $24 \times 125 =$ _____

(7) $150912 \div 3 =$ _____

(8) $13^2 =$ _____

(9) $18 \times 6 + 4 \times 18 =$ _____

***(10)** $515 + 357 + 477 =$ _____

(11) $37 \times 43 =$ _____

(12) $65 \times 45 =$ _____

(13) $44 \times 46 =$ _____

(14) 30% of 80 less 4 = _____

(15) $92 \times 97 =$ _____

(16) $5\frac{2}{7} - 3\frac{1}{14} =$ _____ (mixed number)

(17) The mean of 48, 36, 42 and 38 is _____

(18) Which is larger, $\frac{3}{4}$ or 0.73 ? _____

(19) $107 \times 108 =$ _____

***(20)** $386 \times 52 =$ _____

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

(22) $13 + 16 + 19 + 22 + 25 + 28 =$ _____

(23) $17^2 + 51^2 =$ _____

(24) 2 yd + 2 ft + 2 in = _____ inches

(25) The GCD of 24 and 42 is _____

(26) $\frac{3}{8} + \frac{3}{16} + \frac{3}{32} =$ _____ (fraction)

(27) 43 base 8 = _____ base 10

(28) $14\frac{1}{4} \times 4\frac{1}{7} =$ _____ (mixed number)

(29) $0.727272... =$ _____ (fraction)

***(30)** $18 \times 22 + 27 \times 33 =$ _____

(31) $34 \times 111 =$ _____

(32) $98 \times 103 =$ _____

(33) $(11)^3 =$ _____

(34) If $2x + y = 11$ and $4x - y = 13$, then $x =$ ____

(35) The slope of the line $2x + 8y = 5$ is _____

(36) $54^2 - 36^2 = 18k$. $k =$ _____

(37) If the area of a square is 121 cm^2, then the perimeter is _____cm

(38) $(9x + 8)^2 = ax^2 + bx + c$. $a + b + c =$ _____

(39) The measure of each interior angle of a regular hexagon is _____°

***(40)** $37924 \div 591 =$ _____

(41) $444 \times \frac{3}{37} =$ _____

(42) $234 \times 12 =$ _____

(43) The 13^{th} triangular number is _____

(44) $S = \{5, 3, 8, 11, 19, 30, m, n\}$. $n =$ _____

(45) The smaller root of $(2x-1)^2 = \frac{4}{9}$ is _____

(46) $765_8 - 547_8 =$ _____$_8$

(47) If $6^x = 25$, then $6^{x+1} =$ _____

(48) $|4-7| + |3-9| + 4 =$ _____

(49) The distance between the points $(4,-3)$ and $(-2,5)$ is k. $k =$ _____

***(50)** $27 \times 30 \times 33 =$ _____

(51) $18 \times \frac{19}{23} =$ _____ (mixed number)

(52) $996 \times 997 =$ _____

(53) 60 mph = _____ ft/s

(54) $(508)^2 =$ _____

(55) $\frac{3}{10} - \frac{10}{29} =$ _____ (fraction)

(56) $6327 \div 111 =$ _____

(57) How many positive integers less than or equal to 20 are relatively prime to 20? _____

(58) If 6 abs cost \$5.46, then 9 abs cost \$_____

(59) $123_4 =$ _____$_2$

***(60)** $\sqrt{439} \times \sqrt{631} =$ _____

(61) If the diagonal of a square is $\sqrt{102}$ in, then the area is _____ in^2

(62) The first 4 digits of the decimal for $\frac{13}{33}$ are 0._____

(63) The probability of rolling two dice and getting a sum of 2, 3 or 4_ is _____

(64) If $12^4 \div 6 = (2^x)(3^y)$, then $x + y =$ _____

(65) If the roots of $3x^2 + 9x - 30 = 0$ are P and Q, then $PQ + (P + Q) =$ _____

(66) The sum of the coefficients of $(11x+9)^2$ is _____

(67) If the vertex of the parabola $y = x^2 - 4x + 6$ is (h, k), then $k =$ _____

(68) $1^2 - 2^2 + 3^2 - 4^2 + ... + 9^2 =$ _____

(69) The product of the coefficients of $(2x+y)^2$ is _____

***(70)** 120 rods = _____ feet

(71) The arithmetic sequence $8, 15, 22, 29, ..., 169$ has _____ terms

(72) $12^3 - 11^3 =$ _____

(73) $(135_6) \times (4_6) =$ _____$_6$

(74) If $f(x) = \frac{3x+2}{5} - 6$, then $f^{-1}(4) =$ _____

(75) $(6)(7)(26)(37) =$ _____

(76) If m and n are natural numbers and $2\frac{4}{m} \times n\frac{1}{2} = 11$, then $m + n =$ _____

(77) $3 + 7 + 10 + 17 + 27 + ... + 115 + 186 =$ _____

(78) The sum of the integral solutions of $|2x + 6| \le 24$ is _____

(79) $\frac{1}{14} =$ _____ % (mixed number)

***(80)** Jacob ran 12 miles yesterday. How many feet did he run? _____ ft

2021-2022 TMSCA MSNS Gear Up Key

(1) 6066

(2) 302

(3) 630

(4) $\frac{14}{25}$

(5) .875

(6) 3000

(7) 50304

(8) 169

(9) 180

***(10)** 1282 – 1416

(11) 1591

(12) 2925

(13) 2024

(14) 20

(15) 8924

(16) $2\frac{3}{14}$

(17) 41

(18) $\frac{3}{4}$

(19) 11556

***(20)** 19069 – 21075

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

(22) 123

(23) 2890

(24) 98

(25) 6

(26) $\frac{21}{32}$

(27) 35

(28) $59\frac{1}{28}$

(29) $\frac{8}{11}$

***(30)** 1223 – 1351

(31) 3774

(32) 10094

(33) 1331

(34) 4

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

(36) 90

(37) 44

(38) 289

(39) 120

***(40)** 61 – 67

(41) 36

(42) 2808

(43) 91

(44) 79

(45) $\frac{1}{6}$

(46) 216

(47) 150

(48) 13

(49) 10

***(50)** 25394 – 28066

(51) $14\frac{20}{23}$

(52) 993012

(53) 88

(54) 258064

(55) $-\frac{13}{290}$

(56) 57

(57) 8

(58) 8.19

(59) 11011

***(60)** 501 – 552

(61) 51

(62) 3939

(63) $\frac{1}{6}$

(64) 10

(65) –13

(66) 400

(67) 2

(68) 45

(69) 16

***(70)** 1881 – 2079

(71) 24

(72) 397

(73) 1032

(74) 16

(75) 40404

(76) 13

(77) 480

(78) –75

(79) $7\frac{1}{7}$ or $\frac{50}{7}$

***(80)** 60192 – 66528