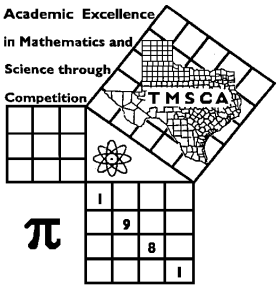
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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#8©

JANUARY 23, 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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2020-2021 TMSCA Middle School Test 8

(1) $963 - 741 =$ _____

(2) $678 + 321 =$ _____

(3) $\frac{3}{8} + \frac{1}{4} =$ _____ (fraction)

(4) $76 \times 50 =$ _____

(5) $\frac{17}{20} =$ _____%

(6) $11 \times 13 + 9 \times 13 =$ _____

(7) $75 \times 56 =$ _____

(8) $28 \times \frac{3}{4} =$ _____

(9) $18.6 - 6.54 =$ _____ (decimal)

*(10) $682 + 383 - 62 =$ _____

(11) 25 is what percent of 125? _____%

(12) $0.475 =$ _____ (fraction)

(13) DCCXLVII = _____ (Arabic numeral)

(14) $47234 \div 9$ has a remainder of _____

(15) 32 quarts = _____ gallons

(16) $5\frac{2}{9} - 2\frac{2}{3} =$ _____ (mixed number)

(17) The sum of the prime numbers between 18 and 28 is _____

(18) $7 + 11 + 15 + 19 + 23 + 27 =$ _____

(19) The mean of 38, 45, 47 and 42 is _____

*(20) $152 \times 139 =$ _____

(21) $2995 \times 7 + 35 =$ _____

(22) An angle supplementary to 52° measures _____°

(23) The LCM of 16 and 30 is _____

(24) $106^2 =$ _____

(25) $18 \times 3\frac{1}{9} =$ _____

(26) 216 inches = _____ yards

(27) The simple interest on $800 at 6% for 18 months is $_____

(28) $\frac{12}{11} - \frac{11}{12} =$ _____ (fraction)

(29) $(15 \text{ ft}) \times (12 \text{ ft}) \times (9 \text{ ft}) =$ _____ yd^3

*(30) $\sqrt{200000} =$ _____

(31) A heptagon has _____ distinct diagonals

(32) $32 \times 37 =$ _____

(33) The slope of the line $8x + 4y = 15$ is _____

34) $42^2 + 14^2 =$ _____

(35) $(17x - 5)^2 = ax^2 + bx + c$. $a + b + c =$ _____

(36) $79 \times 111 =$ _____

(37) My car travels 22 miles on one gallon of gas. How far will it travel on 22 gallons? _____mi

(38) If $72^2 - 68^2 = 8 \times k$, then $k =$ _____

(39) If $8^x = \frac{1}{64}$, then $x^4 =$ _____

*(40) $\sqrt[3]{53222} =$ _____

(41) If $5x + y = 2$ and $2x - y = 5$, then $x =$ _____

(42) $\sqrt{75 \times 27} =$ _____

(43) The area of a circle with circumference = 50π cm is _____ π cm^2

(44) If $11x - 13 = 42$, then x^2 = _____

(45) $777 \times \frac{7}{37}$ = _____

(46) $S = \{0, 3, 8, 15, 24, 35, m, n...\}$. m + n = _____

(47) 110 ft/s _____mph

(48) 33×303 = _____

(49) 0.115 = _____ (fraction)

***(50) $\sqrt{455} \times \sqrt{655}$ = _____**

(51) If $2^{(x+y)} = 64$, then $(x + y)^3$ = _____

(52) 94×104 = _____

(53) $\frac{9!}{6!} \times (7)^{-1}$ = _____

(54) 906^2 = _____

(55) 1005×1009 = _____

(56) The area of an equilateral triangle with a side = 16 cm is _____ $\sqrt{3}$ cm^2

(57) $\left(5\sqrt{6} \times 3\sqrt{6}\right)^2$ = _____

(58) $\sqrt[3]{91125}$ = _____

(59) The sum of all negative integers x such that $5x + 3 > -17$ is _____

***(60) $\pi \times e \times 850$ = _____**

(61) $60 \div 0.41666...$ = _____

(62) $0.727272... + 0.111...$ = _____ (fraction)

(63) The harmonic mean of 6 and 12 is _____

(64) If $h(x) = 3x^2 + 3x - 6$, then $h(5)$ = _____

(65) If the diagonal of a square is $\sqrt{128}$ in, then the area is _____ in^2

(66) The probability of rolling two dice and getting a sum of 5 or 7 is _____

(67) The hypotenuse of a right triangle with integral sides is 13. The area is _____

(68) If $146_b = 102$, then 54_b = _____

(69) The distance between the points is (5, 4) and (–2, – 2) is k. k^2 = _____

***(70) $31 \times 40 \times 49$ = _____**

(71) The sum of the positive integral divisors of 45 is _____

(72) The set {a, b, c, d, e} has _____ subsets.

(73) The first 4 digits of the decimal for $\frac{12}{111}$ are 0._____

(74) $\frac{7}{8} + \frac{7}{24} + \frac{7}{48}$ = _____ (mixed number)

(75)The probability of randomly selecting a 6 or a 7 from a standard deck of cards is _____

(76) $\frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \frac{5}{6}$ = _____

(77) $\left(5342_6 \times 11_6\right)$ = _____$_6$

(78) 5.3666... = _____ (mixed number)

(79) The arithmetic sequence 5, 10, 15, 20, 25, ..., 75 has _____ terms

***(80) How many seconds are there in one day ? _____**

2020-2021 TMSCA MSNS Test 8 Key

(1) 222

(2) 999

(3) $\frac{5}{8}$

(4) 3800

(5) 85

(6) 260

(7) 4200

(8) 21

(9) 12.06

***(10)** 953 – 1053

(11) 20

(12) $\frac{19}{40}$

(13) 747

(14) 2

(15) 8

(16) $2\frac{5}{9}$

(17) 42

(18) 102

(19) 43

***(20)** 20072 – 22184

(21) 21000

(22) 128

(23) 240

(24) 11236

(25) 56

(26) 6

(27) 72.00

(28) $\frac{23}{132}$

(29) 60

***(30)** 425 – 469

(31) 14

(32) 1184

(33) –2

(34) 1960

(35) 144

(36) 8769

(37) 484

(38) 70

(39) 16

***(40)** 36 – 39

(41) 1

(42) 45

(43) 625

(44) 25

(45) 147

(46) 111

(47) 75

(48) 9999

(49) $\frac{23}{200}$

***(50)** 519 – 573

(51) 216

(52) 9776

(53) 72

(54) 820836

(55) 1014045

(56) 64

(57) 8100

(58) 45

(59) –6

***(60)** 6896 – 7621

(61) 144

(62) $\frac{83}{99}$

(63) 8

(64) 84

(65) 64

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

(67) 30

(68) 44

(69) 85

***(70)** 57722 – 63798

(71) 78

(72) 32

(73) 1081

(74) $1\frac{5}{16}$

(75) $\frac{2}{13}$

(76) $\frac{1}{3}$

(77) 103202

(78) $5\frac{11}{30}$

(79) 15

***(80)** 82080 – 90720