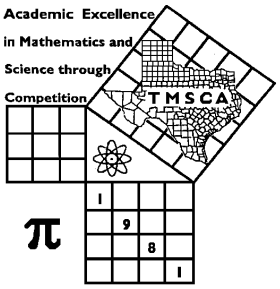
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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#13©

MARCH 13, 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 13

(1) $557 - 343 =$ _____

(2) $341 + 459 =$ _____

(3) $\frac{1}{5} + \frac{1}{4} =$ _____ (fraction)

(4) $60 \times 15 =$ _____

(5) $\frac{7}{20} =$ _____%

(6) $446 \times 11 =$ _____

(7) $75 \times 48 =$ _____

(8) $6(9) + 12(9) + 2(9) =$ _____

(9) $8.65 - 7.54 =$ _____ (decimal)

***(10)** $775 + 550 + 22 =$ _____

(11) 15 is what percent of 60? _____%

(12) $106 \times 104 =$ _____

(13) DCXLIII = _____ (Arabic numeral)

(14) $5\frac{3}{7} - 3\frac{9}{14} =$ _____ (mixed number)

(15) 28 quarts = _____ gallons

(16) $37 \times 23 =$ _____

(17) The sum of the prime numbers between 6 and 16 is _____

(18) $5\frac{3}{4} \times 8\frac{2}{5} =$ _____ (mixed number)

(19) The mean of 18, 15, 27 and 24 is _____

***(20)** $56894 \div 139 =$ _____

(21) $1992 \times 5 + 40 =$ _____

(22) 2 yards + 2 feet + 2 inches = _____ inches

(23) The LCM of 14 and 21 is _____

(24) $43 \times 25 =$ _____

(25) $15 \times 4\frac{1}{5} =$ _____

(26) $21^2 + 63^2 =$ _____

(27) The simple interest on \$500 at 7% for 24 months is \$_____

(28) $97 \times 104 =$ _____

(29) $(9 \text{ ft}) \times (12 \text{ ft}) \times (18 \text{ ft}) =$ _____ yd^3

***(30)** $\sqrt{456721} =$ _____

(31) A decagon has _____ distinct diagonals

(32) $0.7333... =$ _____ (fraction)

(33) The slope of the line $4x - 6y = 5$ is _____

34) $57^2 + 65^2 =$ _____

(35) $(11x + 6)^2 = ax^2 + bx + c$. $a + b + c =$ _____

(36) $48^2 =$ _____

(37) My car travels 32 miles on one gallon of gas. How far will it travel on 6 gallons? _____mi

(38) $0.545454... =$ _____ (fraction)

(39) If $4^x = \frac{1}{256}$, then $x =$ _____

***(40)** $\sqrt[3]{23456} =$ _____

(41) If $2x + 5y = 4$ and $x - 2y = -7$, then $x =$ ____

(42) The negative reciprocal of 6.2 is _____

(43) The area of a circle with circumference = 46π cm is _____ π cm^2

(44) $95°\text{F} =$ _____ °C

(45) $444 \times \frac{6}{37} =$ _____

(46) How many integers between 16 and 101 are divisible by 9? _____

(47) 154 ft/s _____ mph

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

(49) $0.095 =$ _____ (fraction)

***(50) $\sqrt{231} \times \sqrt{331} =$ _____**

(51) If $5^{(x+y)} = 625$, then $(x+y)^4 =$ _____

(52) $765 \times 111 =$ _____

(53) $\frac{8!}{5!} \times (7)^{-1} =$ _____

(54) $(906)^2 =$ _____

(55) $1004 \times 1008 =$ _____

(56) The area of an equilateral triangle with a side = 24 cm is _____ $\sqrt{3}$ cm^2

(57) $\left(4\sqrt{5} \times 3\sqrt{5}\right)^2 =$ _____

(58) $0.272727... + 0.555... =$ _____

(59) The sum of all negative integers x such that $4x + 4 \geq -16$ is _____

***(60) $\pi^3 \times e^6 =$ _____**

(61) $21 \div 0.58333... =$ _____

(62) $344_6 \div 4_6 =$ _____ 6

(63) The harmonic mean of 8 and 10 is _____

(64) 24% of $366\frac{2}{3} =$ _____

(65) If the diagonal of a square is $\sqrt{98}$ in, then the area is _____ in^2

(66) If $234_b = 69$, then $432_b =$ _____

(67) The hypotenuse of a right triangle with integral sides is 17. The area is _____

(68) $\frac{11}{12} - \frac{32}{37} =$ _____ (fraction)

(69) The distance between the points is (6, 9) and (–3, 4) is k. $k^2 =$ _____

***(70) $8 \times 16 \times 24 =$ _____**

(71) The sum of the positive integral divisors of 50 is _____

(72) 66 base 7 is _____ base 9

(73) The first 4 digits of the decimal for $\frac{79}{333}$ are 0._____

(74) How many distinct 6-letter arrangements can be made from the letters of the word kettle? _____

(75)The probability of randomly selecting a king from a standard deck of cards is _____

(76) 9 + 3 + 12 + 15 + 27 + … + 180 + 291 = _____

(77) $\left(5367_8 \times 11_8\right) =$ _____ 8

(78) The sum of the integral solutions of $|6x + 12| \leq 42$ is _____

(79) The arithmetic sequence 6, 12, 18, 24, ..., 84 has _____ terms

***(80) How many minutes will there be in February, 2024? _____**

2020-2021 TMSCA MSNS Test 13 Key

(1) 214

(2) 800

(3) $\frac{9}{20}$

(4) 900

(5) 35

(6) 4906

(7) 3600

(8) 180

(9) 1.11

***(10)** 1280 – 1414

(11) 25

(12) 11024

(13) 643

(14) $1\frac{11}{14}$

(15) 7

(16) 851

(17) 31

(18) $48\frac{3}{10}$

(19) 21

***(20)** 389 – 429

(21) 10000

(22) 98

(23) 42

(24) 1075

(25) 63

(26) 4410

(27) 70.00

(28) 10088

(29) 72

***(30)** 643 – 709

(31) 35

(32) $\frac{11}{15}$

(33) $\frac{2}{3}$

(34) 7474

(35) 289

(36) 2304

(37) 192

(38) $\frac{6}{11}$

(39) –4

***(40)** 28 – 30

(41) –3

(42) $-\frac{5}{31}$

(43) 529

(44) 35

(45) 72

(46) 10

(47) 105

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

(49) $\frac{19}{200}$

***(50)** 263 – 290

(51) 256

(52) 84915

(53) 48

(54) 820836

(55) 1012032

(56) 144

(57) 3600

(58) $\frac{82}{99}$

(59) –15

***(60)** 11884 – 13134

(61) 36

(62) 54

(63) $\frac{80}{9}$ or $8\frac{8}{9}$

(64) 88

(65) 49

(66) 117

(67) 60

(68) $\frac{23}{444}$

(69) 106

***(70)** 2919 – 3225

(71) 93

(72) 53

(73) 2372

(74) 180

(75) $\frac{1}{13}$

(76) 759

(77) 61257

(78) –30

(79) 14

***(80)** 39672 – 43848