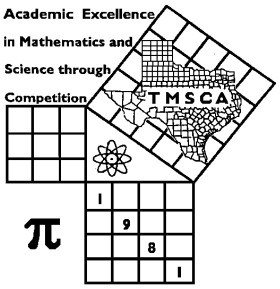
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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#3©

OCTOBER 31, 2020

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.

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA TMSCA

2020-2021 TMSCA Middle School Number Sense Test 3

(1) $922 - 361 =$ _____

(2) $787 + 252 =$ _____

(3) $92 \times 50 =$ _____

(4) $\frac{14}{25} =$ _____%

(5) $1.8 + 7.33 =$ _____ (decimal)

(6) $6472 \div 8 =$ _____

(7) $18 \times \frac{5}{6} =$ _____

(8) $6(12) + 6(18) - 6(10) =$ _____

(9) $13^2 =$ _____

***(10)** $684 + 533 - 212 =$ _____

(11) $45 \times 55 =$ _____

(12) The smallest prime number greater than 41 is _____

(13) $86 \times 26 =$ _____

(14) 5 gallons = _____ quarts

(15) $8 + 11 + 14 + 17 + 20 + 23 =$ _____

(16) $0.325 =$ _____ (fraction)

(17) $87 \times 83 =$ _____

(18) $33 \times 25 =$ _____

(19) $8\frac{2}{3} - 2\frac{3}{4} =$ _____ (mixed number)

***(20)** $478 \times 6.25 =$ _____

(21) 20% of 99 is _____ % of 33

(22) $112 \times 107 =$ _____

(23) 81 base 10 = _____ base 6

(24) $(12 \text{ ft}) \times (6 \text{ ft}) \times (36 \text{ ft}) =$ _____ yd^3

(25) $\frac{9}{8} - \frac{8}{9} =$ _____

(26) $3988 \times 6 + 72 =$ _____

(27) An angle complimentary to $38°$ measures _____°

(28) $18^2 + 36^2 =$ _____

(29) $9\frac{3}{7} \times 9\frac{4}{7} =$ _____ (mixed number)

***(30)** $35 \times 18 + 33 \times 22 =$ _____

(31) $\frac{2}{11}$ of a gallon = _____ in^3

(32) $22 \times 24 =$ _____

(33) A hexagon has _____ distinct diagonals

(34) The slope of the line $3x - 5y = 9$ is _____

(35) If $f(x) = x^2 + 8x + 16$, then $f(7) =$ _____

(36) $\frac{4}{9} \div \frac{8}{27} =$ _____ (mixed number)

(37) $\sqrt{12 \times 27} =$ _____

(38) If $5^x = \frac{1}{125}$, then $x =$ _____

(39) If $64^2 - 36^2 = 56 \times k$, then $k =$ _____

***(40)** 72 yards = _____ inches

(41) 0.44555… = _____ (fraction)

(42) If $6x + 4y = 6$ and $4x - 2y = 18$, then $x =$ ___

(43) $123 \times 13 =$ _____

(44) $S = \{1, 4, 9, 16, 25, 36, m, n...\}$. m + n = _____

(45) $104°\,F =$ _____ °C

(46) $17 \times \frac{15}{13} =$ _____ (mixed number)

(47) $522_7 - 255_7 =$ _____ $_7$

(48) $286 \times 21 =$ _____

(49) $\sqrt[3]{10648} =$ _____

*(50) $16 \times 20 \times 24 =$ _____

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

(52) 44 ft/s _____ mph

(53) $5106 \div 111 =$ _____

(54) The third octagonal number is _____

(55) $212212_3 =$ _____ $_9$

(56) $12\frac{3}{5} \times 10\frac{1}{3} =$ _____ (mixed number)

(57) $994^2 =$ _____

(58) The slope of the perpendicular bisector of a line segment with endpoints $(-5, -6)$ and $(5, 9)$ is _____

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

*(60) $e^5 \times 2.71 =$ _____

(61) If $5^{x+2} = 150$, then $5^x =$ _____

(62) The probability of rolling two dice and getting a sum of 2, 4 or 6 is _____

(63) The geometric mean of 12 and 75 is _____

(64) $18^2 - 16^2 + 14^2 - 12^2 =$ _____

(65) If the diagonal of a square is $\sqrt{72}$ in, then the area is _____ in^2

(66) If the roots of $3x^2 - x - 14 = 0$ are P and Q, then $PQ + (P + Q) =$ _____

(67) If the probability of winning is 60%, then the odds of losing is _____

(68) The first 4 digits of the decimal for $\frac{11}{15}$ is 0._____

(69) 3.56 = _____ (mixed number)

*(70) $\pi^6 \times 3.14 =$ _____

(71) $15 \div 0.41666... =$ _____

(72) If $45_b = 37$, then $66_b =$ _____

(73) If $f(x) = \frac{2x - 19}{9} + 3$, then $f^{-1}(12) =$ _____

(74) The volume of a cylinder is 54π in^3. If the height equals twice the radius, then the radius is _____ in

(75) The arithmetic sequence 7, 14, 21, 28, ..., 98 has _____ terms

(76) $25^3 - 24^3 =$ _____

(77) $\frac{1}{6} + \frac{1}{12} + \frac{1}{20} + \frac{1}{30} =$ _____

(78) The smallest angle of the hands of a clock at 2:30 is _____°

(79) The sum of the integral solutions of $|3x + 9| \le 36$ is _____

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

2020-2021 TMSCA MSNS Test 3 Key

(1) 561

(2) 1039

(3) 4600

(4) 56

(5) 9.13

(6) 809

(7) 15

(8) 120

(9) 169

***(10) 955 – 1055**

(11) 2475

(12) 43

(13) 2236

(14) 20

(15) 93

(16) $\frac{13}{40}$

(17) 7221

(18) 825

(19) $5\frac{11}{12}$

***(20) 2839 – 3136**

(21) 60

(22) 11984

(23) 213

(24) 96

(25) $\frac{17}{72}$

(26) 24000

(27) 52

(28) 1620

(29) $90\frac{12}{49}$

***(30) 1289 – 1423**

(31) 42

(32) 528

(33) 9

(34) $\frac{3}{5}$ or .6

(35) 121

(36) $1\frac{1}{2}$

(37) 18

(38) –3

(39) 50

***(40) 2463 – 2721**

(41) $\frac{401}{900}$

(42) 3

(43) 1599

(44) 113

(45) 40

(46) $19\frac{8}{13}$

(47) 234

(48) 6006

(49) 22

***(50) 7296 – 8064**

(51) 30

(52) 30

(53) 46

(54) 21

(55) 785

(56) $130\frac{1}{5}$

(57) 988036

(58) $-\frac{2}{3}$

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

***(60) 383 – 422**

(61) 6

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

(63) 30

(64) 120

(65) 36

(66) $-\frac{13}{3}$ or $-4\frac{1}{3}$

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

(68) 7333

(69) $3\frac{14}{25}$

***(70) 2868 – 3169**

(71) 36

(72) 54

(73) 50

(74) 3

(75) 14

(76) 1801

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

(78) 105

(79) –75

***(80) 41040 – 45360**