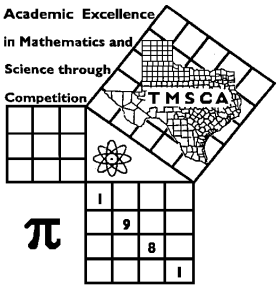
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #7 ©

JANUARY 18, 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

2019-2020 TMSCA Middle School Number Sense Test 7

(1) $2020 - 1888 =$ _____

(2) $64 \times 75 =$ _____

(3) $23582 \div 9$ has a remainder of _____

(4) $\frac{7}{10} + \frac{3}{5} =$ _____ (mixed number)

(5) $453 \times 11 =$ _____

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

(7) $17^2 =$ _____

(8) $15 \times 8 + 15 =$ _____

(9) $(15^2 - 25) \times 7 =$ _____

*(10) $1268 + 840 - 650 =$ _____

(11) $35 \times 75 =$ _____

(12) $85\% =$ _____ (fraction)

(13) Which is larger, $\frac{3}{5}$ or $\frac{6}{11}$? _____

(14) $106 \times 108 = =$ _____

(15) $5\frac{1}{4} \times 5\frac{3}{4} =$ _____ (mixed number)

(16) $11^3 =$ _____

(17) $1 + 3 + 5 + ... + 39 =$ _____

(18) $22 \times 36 + 28 \times 36 =$ _____

(19) $48 \times 52 =$ _____

*(20) $362 \times 6.66 =$ _____

(21) The GCD of 38 and 95 is = _____

(22) $5! + 4! + 3! =$ _____

(23) $7\frac{1}{3} - 5\frac{1}{2} =$ _____ (mixed number)

(24) $\frac{7}{11} + \frac{11}{7} =$ _____ (mixed number)

(25) $0.7888... =$ _____ (fraction)

(26) $1193 \times 7 + 49 =$ _____

(27) 75% of 33 is 25% of _____

(28) $123_6 =$ _____ base 10

(29) $143 \times 35 =$ _____

*(30) $7^2 \times \pi^5 =$ _____

(31) 3 gallons = _____ in^3

(32) $76^2 + 53^2 =$ _____

(33) The number of positive integral divisors of 36 is _____

(34) If $n = \sqrt[3]{216}$, then $n^2 - 24 =$ _____

(35) The sum of the prime divisors of 84 is _____

(36) If $5x - 6 = 29$, then $(2x)^2 =$ _____

(37) If the area of a square is 361, then the perimeter is _____

(38) $96 \times 102 =$ _____

(39) $(64)^{\frac{3}{2}} =$ _____

*(40) $\sqrt{401276} =$ _____

(41) $S = \{2, 5, 7, 12, 19, k, 50, 81\}$ k = _____

(42) $80° C =$ _____ $° F$

(43) $55^2 - 44^2 =$ _____

(44) The hypotenuse of a triangle with integral sides is 17. The length of the shortest leg is _____

(45) $789 \times 111 =$ _____

(46) If 3 pounds of nuts cost \$15.30, then 8 pounds of nuts cost \$ _____

(47) The largest integer x, such that $7x - 12 < 25$ is _____

(48) $\sqrt[3]{46656} =$ _____

(49) The largest root of $(4x-1)^2 = \frac{9}{16}$ is _____

***(50)** $12 \times 18 \times 24 \times 30 =$ _____

(51) The sixth hexagonal number is _____

(52) $997 \times 995 =$ _____

(53) If the midpoint of the line segment with endpoints $(7, 9)$ and $(2, 1)$ is (a, b), then $a - b =$ _____

(54) The slope of a line containing the points $(-2, -6)$ and $(6, 11)$ is _____

(55) $321_4 =$ _____$_2$

(56) $11 \times \frac{13}{15} =$ _____ (mixed number)

(57) The area of an equilateral triangle with a side = 11 cm is _____ $\sqrt{3}$ cm^2

(58) $\frac{1}{20} + \frac{1}{30} + \frac{1}{42} =$ _____

(59) $(708)^2 =$ _____

***(60)** 1850 feet = _____ inches

(61) $234_7 \times 11_7 =$ _____$_7$

(62) $f(x) = x^2 - 6x + 9$. $f(25) =$ _____

(63) $8 + 6 + \frac{9}{2} + \frac{27}{8} + \frac{81}{32} + ... =$ _____

(64) If the roots of $2x^2 - 23x + 63 = 0$ are P and Q, then $PQ + (P + Q) =$ _____

(65) If $5^x = 8$, then $5^{(x+3)} =$ _____

(66) $555 \times \frac{5}{37} =$ _____

(67) If $15^8 \div 25 = (3^x)(5^y)$, then $x + y =$ _____

(68) $f(x) = x^3 + 1$. $f(f(2)) =$ _____

(69) The probability of rolling two dice and getting a sum of 5 or 9 is _____

***(70)** $e^3 \times 15^3 =$ _____

(71) The harmonic mean of 11 and 9 is _____

(72) If $135_b = 93$, then $46_b =$ _____

(73) $444 \times \frac{4}{27} =$ _____

(74) The maximum value of $f(x) = -x^2 + x + 6$ is _____

(75) $f(x) = \frac{2x+6}{4} - 5$. $f^{-1}(7) =$ _____

(76) The sum of the integral solutions of $|5x + 15| \le 50$ is _____

(77) The probability of getting 4 tails when flipping a coin 6 times is _____

(78) The geometric mean of 12, 45 and 50 is _____

(79) The smallest angle of the hands of a clock at 6:45 is _____°

***(80)** $3612 \times 71.4285 =$ _____

2019-2020 TMSCA MSNS Test 7 Key

(1) 132

(2) 4800

(3) 2

(4) $1\frac{3}{10}$

(5) 4983

(6) 62.5

(7) 289

(8) 135

(9) 1400

***(10)** $1386-1530$

(11) 2625

(12) $\frac{17}{20}$

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

(14) 11448

(15) $30\frac{3}{16}$

(16) 1331

(17) 400

(18) 1800

(19) 2496

***(20)** $2291-2531$

(21) 19

(22) 150

(23) $1\frac{5}{6}$

(24) $2\frac{16}{77}$

(25) $\frac{71}{90}$

(26) 8400

(27) 99

(28) 51

(29) 5005

***(30)** $14246-15744$

(31) 693

(32) 8585

(33) 9

(34) 12

(35) 12

(36) 196

(37) 76

(38) 9792

(39) 512

***(40)** $602-665$

(41) 31

(42) 176

(43) 1089

(44) 8

(45) 87579

(46) 40.80

(47) 5

(48) 36

(49) $\frac{7}{16}$ or .4375

***(50)** $147744-163296$

(51) 66

(52) 992015

(53) $-\frac{1}{2}$ or $-.5$

(54) $\frac{17}{8}, 2\frac{1}{8}, 2.125$

(55) 111001

(56) $9\frac{8}{15}$

(57) $\frac{121}{4}, 30\frac{1}{4}, 30.25$

(58) $\frac{3}{28}$

(59) 501264

***(60)** $21090-23310$

(61) 2604

(62) 484

(63) 32

(64) 43

(65) 1000

(66) 75

(67) 14

(68) 730

(69) $\frac{2}{9}$

***(70)** $64400-71178$

(71) $\frac{99}{10}, 9\frac{9}{10}, 9.9$

(72) 38

(73) $65\frac{7}{9}$ or $\frac{592}{9}$

(74) $\frac{25}{4}, 6\frac{1}{4}, 6.25$

(75) 21

(76) –63

(77) $\frac{15}{64}$ or .234375

(78) 30

(79) $67\frac{1}{2}, 67.5, \frac{135}{2}$

***(80)** $245100-270899$