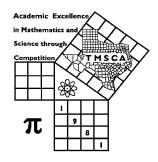
1st Score:	2nd Score:	3rd Score:				
Grader:	Grader:	Grader:	1	Final S	core	
PLACE LABEL BELOW						
Name:		School:				
SS/ID Number:City:						
Grade: 4 5 6	7 8 Cla	ssification: 1A 2A	3A	4A	5A	6A



## TMSCA MIDDLE SCHOOL NUMBER SENSE

**TEST #11 ©** 

FEBRUARY 15, 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 <u>non-black</u> 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 <u>FIVE</u> points. <u>FOUR</u> points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

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## 2019-2020 TMSCA Middle School Number Sense Test 11

- (1) 336 + 774 888 =
- (2) 675 144 21 =
- (3)  $24 \times 15 60 =$
- (4) 68% =\_\_\_\_\_(fraction)
- (5)  $\frac{3}{7} + \frac{3}{14} + 1 =$  \_\_\_\_\_ (improper fraction)
- (6) 0.08333... (fraction)
- (7)  $22^2 =$ \_\_\_\_\_
- (9) DCCLXXVII = \_\_\_\_\_ (Arabic numeral)
- \*(10) 222 + 1222 + 388 = \_\_\_\_\_
- $(11) 47 \times 25 =$
- (12) 15 is \_\_\_\_\_\_ percent of 25?
- $(13) \ \ 23 \times 35 + 17 \times 35 = \underline{\hspace{1cm}}$
- (14) 2.5 gallons = \_\_\_\_ (cups)
- $(15) \quad 56 \times 44 + 36 = \underline{\hspace{1cm}}$
- (16) The sum of the prime numbers between 80 and 90 is \_\_\_\_\_
- $(17) 88 \times 101 + 112 = \underline{\hspace{1cm}}$
- (18)  $105 \times 113 =$
- (19) 87 × 27 = \_\_\_\_
- \*(20) 386 × 766 = \_\_\_\_\_
- (21)  $8\frac{2}{5} \times 8\frac{3}{5} =$  \_\_\_\_\_ (mixed number)

- (22) **0.3777...** = \_\_\_\_\_(fraction)
- (23)  $\frac{7}{12} + \frac{12}{7} =$  (mixed number)
- (24) 350 base 10 = \_\_\_\_\_ base 7
- (25) If  $n = \sqrt[3]{2744}$ , then  $n^2 + 4 =$ \_\_\_\_\_
- $(26) \quad \frac{9}{10} \frac{10}{9} = \underline{\hspace{1cm}}$
- $(27) \quad 6! 11^2 + 1 = \underline{\hspace{1cm}}$
- (28) {a,b,c,d,e,f,g} has \_\_\_\_\_ subsets
- (29) 286 × 49 = \_\_\_\_
- \*(30)  $\sqrt{882266} =$
- $(31) \ \ 3+9+15+21+...+69 = \underline{\hspace{1cm}}$
- $(32) 11^2 + 92^2 = \underline{\hspace{1cm}}$
- (33) If 4x + 16 = 4, then  $(3x 7)^2 =$
- (34) If 15 bots cost \$45.75, then 12 bots cost \$\_\_\_\_\_
- (35) If  $f(x) = 16x^2 + 8x + 1$ , then f(6) =
- (36) The slope of the line 5x 8y = 11 is \_\_\_\_\_
- (37)  $(44+16\times33)\div6$  has a remainder of \_\_\_\_\_
- (38) If  $3^x = \frac{1}{81}$ , then  $x^2 =$
- (39) If  $64^2 35^2 = 29 \times k$ , then k =\_\_\_\_\_
- \*(40) 13×16×19 = \_\_\_\_\_
- $(41) S = \{0, 7, 26, 63, 124, k, 342, 511\}. k = ____$
- (42) The smaller root of  $(x+1)^2 = \frac{4}{25}$  is \_\_\_\_\_

- (43) The measure of an interior angle of a regular pentagon is \_\_\_\_\_\_°
- (44) A right triangle with integral sides has a hypotenuse length of 61 cm.

  The area of the triangle is \_\_\_\_\_cm<sup>2</sup>
- (45) If 3x + 2y = 1 and x y = -8, then  $x = ____$
- (46)Evaluate  $(35)(xy)^{\frac{1}{2}}$  if x = 9 and y = 16.
- (47)  $5\frac{5}{8} \div \frac{3}{4} =$ \_\_\_\_\_ (mixed number)
- (48)A string 2 yd, 2 ft long is cut into 4 equal pieces. How long is each piece? \_\_\_\_\_in
- (49) If |4x+6|=14, x<0, then x=\_\_\_\_\_
- \*(50) 843692 ÷ 186 = \_\_\_\_\_
- $(51) \quad 8^{-1} + 8^{-2} + 8^{-3} = \underline{\hspace{1cm}}$
- $(52) (993)^2 =$
- $(53) \ \frac{4}{5} \times \frac{7}{8} \times \frac{10}{21} = \underline{\hspace{1cm}}$
- (54)  $\frac{23}{40} =$  \_\_\_\_\_\_ (decimal)
- (55) 54×1111 = \_\_\_\_\_
- (56) 59 + 25% of 48 =\_\_\_\_\_
- (57) The slope of the perpendicular bisector of a line segment with endpoints (-2,-6) and (6,11) is \_\_\_\_\_\_
- (59) If  $(5x-7)^2 = ax^2 + bx + c$ , then  $a + b = _____$
- \*(60) 48 miles = \_\_\_\_\_ feet
- (61) The LCM of 18, 21 and 9 is \_\_\_\_\_

- (62)  $14 \times \frac{17}{12} =$  \_\_\_\_\_ (mixed number)
- (63) If the probability of winning is 70%, then the odds of losing is \_\_\_\_\_\_
- (64) If  $7^x = 5\frac{4}{9}$ , then  $7^{(x-2)} =$
- (65) If  $20^7 \div 8 = (2^x)(5^y)$ , then x + y =\_\_\_\_\_
- (66)  $45 + 30 + 20 + 13\frac{1}{3} + 8\frac{8}{9} + \dots =$
- (67) If the diagonal of a square is  $\sqrt{72}$  in, then the area is \_\_\_\_\_ in<sup>2</sup>
- (68) If the roots of  $2x^2 + x 15 = 0$ are P and Q, then PQ + (P + Q) =\_\_\_\_\_
- (69) The volume of a cone is  $48\pi$  cm<sup>3</sup>. Find the radius if the height is 9 cm. \_\_\_\_cm
- \*(70)  $e^5 \times \pi^5 =$  \_\_\_\_\_
- (72) **0.147147147...** = \_\_\_\_\_ (fraction)
- (73)  $1 + \frac{1}{3} + \frac{1}{6} + \frac{1}{10} + \frac{1}{15} + \dots + \frac{1}{55} = \underline{\hspace{1cm}}$
- $(74) \sqrt[3]{140608} = \underline{\hspace{1cm}}$
- (75) If  $155_b = 71$ , then  $43_b =$ \_\_\_\_\_
- $(76) \ \frac{1}{12} + \frac{1}{20} + \frac{1}{30} + \frac{1}{42} = \underline{\hspace{1cm}}$
- (77) If (21)(37)(39)(k) = 90909, then  $k = _____$
- $(78) 998 \times 1003 = \underline{\hspace{1cm}}$
- (79) The sum of the integral solutions of  $|x-7| \le 6$  is \_\_\_\_\_
- \*(80) 1,145,233 × 0.444 = \_\_\_\_\_

## 2019-2020 TMSCA MSNS Test 11 Key

(1) 222

(22)  $\frac{17}{45}$ 

(43) 108

(62)  $19\frac{5}{6}$ 

(2) 510

(3) 300

(23)  $2\frac{25}{84}$ 

(45) -3

(44) 330

(63)  $\frac{3}{7}$ 

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

(24) 1010

(25) 200

(46) 420

 $(64) \frac{1}{9}$ 

(5)  $\frac{23}{14}$ 

 $(26) -\frac{19}{90}$ 

(47)  $7\frac{1}{2}$ 

(65) 18

(6)  $\frac{1}{12}$ 

(27) 600

(48) 24

(67) 36

(66) 135

**(7)** 484

(28) 128

**(49) -5** 

(68) -8

(8)  $\frac{7}{8}$ 

(29) 14014

- \*(50) 4310-4762
- (69) 4

(9) 777

- \*(30) 893-986
- (51)  $\frac{73}{512}$

\*(70) 43147 - 47688

- \*(10) 1741-1923
- (32) 8585

(31) 432

- (52) 986049
- (71) 187

(11) 1175

(33) 256

 $(53) \frac{1}{3}$ 

 $(72) \frac{49}{333}$ 

**(12) 60** 

(34) 36.60

(54) .575

(73)  $1\frac{9}{11}$  or  $\frac{20}{11}$ 

(13) 1400

(35) 625

(55) 59994

(74) 52

(14) 40(15) 2500

- (36)  $\frac{5}{8}$  or .625
- (56) 71

(75) 27

(16) 172

(37) 2

 $(57) -\frac{8}{17}$ 

(76)  $\frac{4}{21}$ 

(17) 9000

(38) 16

(39) 99

(58) 731

(77) 3

(18) 11865

(19) 2349

- \*(40) 3755-4149
- **(59) -45**

(78) 1000994

- \*(20) 280893 310459
- (41) 215

- \*(60) 240768 266112
- **(79) 91**

(21)  $72\frac{6}{25}$ 

- $(42) -1\frac{2}{5}, -1.4, -\frac{7}{5}$
- (61) 126

\*(80) 483060 - 533907