

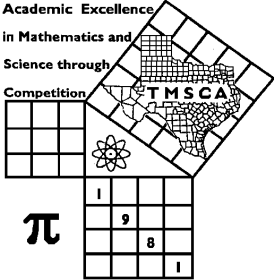
1st Score: _____	2nd Score: _____	3rd Score: _____	<b>Final Score</b>
Grader: _____	Grader: _____	Grader: _____	

## PLACE LABEL BELOW

Name: \_\_\_\_\_ School: \_\_\_\_\_

SS/ID Number: \_\_\_\_\_ City: \_\_\_\_\_

Grade:   5   6   7   8                                          Classification:   1A   2A   3A   4A   5A   6A



# T M S C A M I D D L E S C H O O L`

## N U M B E R S E N S E

### T E S T # 4 ©

## N O V E M B E R 1 4 , 2 0 1 5

**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.



## 2015-2016 TMSCA Middle School Number Sense Test #4

- (1)  $2016 \times 11 =$  \_\_\_\_\_
- (2)  $7 \times 85 =$  \_\_\_\_\_
- (3)  $11 + 13 + 15 - 19 =$  \_\_\_\_\_
- (4)  $255 \div 15 =$  \_\_\_\_\_
- (5)  $13 \times 21 =$  \_\_\_\_\_
- (6)  $0.55 =$  \_\_\_\_\_ (fraction)
- (7)  $1814 \div 6$  has a remainder of \_\_\_\_\_
- (8)  $25 \times (3^2 - 1) + 4^2 =$  \_\_\_\_\_
- (9)  $\frac{7}{4} =$  \_\_\_\_\_ (decimal)
- \*(10)  $3271 - 1428 + 6312 =$  \_\_\_\_\_
- (11)  $8 \times 21 =$  \_\_\_\_\_
- (12)  $312 \div 5 =$  \_\_\_\_\_ (decimal)
- (13)  $32 \times 38 =$  \_\_\_\_\_
- (14)  $16 \text{ yards} - 40 \text{ feet} =$  \_\_\_\_\_ inches
- (15)  $19^2 =$  \_\_\_\_\_
- (16)  $23 \text{ cm} + 14 \text{ mm} =$  \_\_\_\_\_ mm
- (17)  $5 \times 6 \times 7 =$  \_\_\_\_\_
- (18)  $18 \times 32 + 32 \times 82 =$  \_\_\_\_\_
- (19)  $CXV + V =$  \_\_\_\_\_ (Roman Numeral)
- \*(20)  $332 \times 605 =$  \_\_\_\_\_
- (21)  $12 \times 8 \frac{1}{3} =$  \_\_\_\_\_
- (22)  $37 \times 27 =$  \_\_\_\_\_
- (23)  $64 \times 76 =$  \_\_\_\_\_
- (24)  $2016 \div 63 =$  \_\_\_\_\_
- (25) The smallest prime divisor of 189 is \_\_\_\_\_
- (26) The sum of the composite numbers between 10 and 15 is \_\_\_\_\_
- (27) What is the GCF of 45 and 85? \_\_\_\_\_
- (28)  $4! + 5! =$  \_\_\_\_\_
- (29)  $42 \times 50 =$  \_\_\_\_\_
- \*(30) 125 gallon = \_\_\_\_\_ ounces
- (31) If two of the angles of a triangle are 44 degrees and 72 degrees, then the third angle is \_\_\_\_\_ °
- (32) 18 has how many positive integral divisors? \_\_\_\_\_
- (33) 14 pints = \_\_\_\_\_ quarts
- (34)  $\frac{19}{21} + \frac{21}{19} =$  \_\_\_\_\_ (mixed number)
- (35) If 11 markers cost \$2.75, then 8 markers cost \$ \_\_\_\_\_
- (36)  $92 \times 99 =$  \_\_\_\_\_
- (37) Find the area of a triangle with base 15 and height 8. \_\_\_\_\_
- (38)  $22^2 + 66^2 =$  \_\_\_\_\_
- (39) If x is positive and  $x^2 = 36$ , then  $x^3 =$  \_\_\_\_\_
- \*(40) 23% of 4821 = \_\_\_\_\_
- (41)  $3 \text{ ft}^2 =$  \_\_\_\_\_  $\text{in}^2$
- (42)  $33 \times 71 =$  \_\_\_\_\_

- (43) Find the perimeter of a regular pentagon with side length of 27. \_\_\_\_\_
- (44) Find the sum of the nine smallest positive even integers. \_\_\_\_\_
- (45)  $102 \times 106 =$  \_\_\_\_\_
- (46) The multiplicative inverse of 5.2 is \_\_\_\_\_
- (47) How many subsets does {b, r, y, a, n, t} have that contain an even number of elements? \_\_\_\_\_
- (48) What is the measure of an exterior angle in a regular decagon? \_\_\_\_\_ $^{\circ}$
- (49)  $57_8 =$  \_\_\_\_\_<sub>10</sub>
- \*(50)  $166.667 \times 981 =$  \_\_\_\_\_
- (51)  $17 \times \frac{19}{20} =$  \_\_\_\_\_ (mixed number)
- (52)  $0.1 + 0.3 + 0.5 + \dots + 1.9 + 2.1 =$  \_\_\_\_\_ (decimal)
- (53) In the arithmetic sequence ..., x, 14, y, 16, z, ..., the value of x + y + z is \_\_\_\_\_
- (54) The slope of a line that has a y-intercept of 4 and an x-intercept of -2 is \_\_\_\_\_
- (55) If the center of a circle with a diameter that has endpoints (2, 5) and (8, 15) is (h, k), then h = \_\_\_\_\_
- (56)  $34_8 \div 2_8 =$  \_\_\_\_\_<sub>8</sub>
- (57)  $\frac{2}{3}$  of a foot = \_\_\_\_\_ inches
- (58)  $(2^9) \div 5$  has a remainder of \_\_\_\_\_
- (59)  $19^2 - 11^2 =$  \_\_\_\_\_
- \*(60)  $19 \times 20 \times 21 =$  \_\_\_\_\_
- (61)  $9 + 13 + 17 + \dots + 33 =$  \_\_\_\_\_
- (62)  $75 \times 35 =$  \_\_\_\_\_
- (63) Find the area of a right triangle with integer sides if the shortest leg is 5. \_\_\_\_\_
- (64) What is the 6<sup>th</sup> pentagonal number? \_\_\_\_\_
- (65) If a regular polygon has a side length of 4 and exterior angle of  $40^{\circ}$ , then its perimeter is \_\_\_\_\_
- (66) Find the slope of a line parallel to  $2x + 5y = 7$ . \_\_\_\_\_
- (67) If  $\sqrt{2 \times 3 \times 4} = a\sqrt{b}$ , then a = \_\_\_\_\_
- (68) If  $x^2 - 14x + 12 = (x - p)(x - q)$ , where p and q are real numbers, then p + q = \_\_\_\_\_
- (69)  $929 \times 101 =$  \_\_\_\_\_
- \*(70) Find the volume of a cube with side 25. \_\_\_\_\_
- (71)  $78 \times 111 =$  \_\_\_\_\_
- (72) If  $f(x) = 7x^2 - 10x + 17$  then  $f(3) =$  \_\_\_\_\_
- (73) Find the probability of getting a sum greater than 10 when rolling a pair of 6-sided die. \_\_\_\_\_
- (74) If the product of the roots of  $ax^2 + 12x + 18 = 0$  is -6, then a = \_\_\_\_\_
- (75)  $\frac{4 \times 9!}{7!} =$  \_\_\_\_\_
- (76)  $2016 \div 9 =$  \_\_\_\_\_
- (77) If  $\sqrt[3]{x + 2} - 1 = 5$ , then x = \_\_\_\_\_
- (78) If  $a^3 = 7$ , then  $a^6 =$  \_\_\_\_\_
- (79) If  $3x - 4 = 11$ , then  $30x - 40 =$  \_\_\_\_\_
- \*(80)  $\sqrt[3]{142853} =$  \_\_\_\_\_

## 2015-2016 TMSCA Middle School Number Sense Key #4

- |                       |                       |                       |                              |
|-----------------------|-----------------------|-----------------------|------------------------------|
| (1) 22176             | (23) 4864             | (43) 135              | (62) 2625                    |
| (2) 595               | (24) 32               |                       |                              |
| (3) 20                | (25) 3                | (44) 90               | (63) 30                      |
| (4) 17                |                       | (45) 10812            | (64) 51                      |
| (5) 273               | (26) 26               | (46) $\frac{5}{26}$   |                              |
| (6) $\frac{11}{20}$   | (27) 5                |                       | (65) 36                      |
| (7) 2                 | (28) 144              | (47) 32               | (66) $-\frac{2}{5}$ or $-.4$ |
| (8) 216               | (29) 2100             | (48) 36               | (67) 2                       |
| (9) 1.75              | *(30) 15200 – 16800   | (49) 47               |                              |
| *(10) 7748 – 8562     |                       | *(50) 155329 – 171678 | (68) 14                      |
| (11) 168              | (31) 64               |                       | (69) 93829                   |
| (12) 62.4             | (32) 6                | (51) $16\frac{3}{20}$ | *(70) 14844 – 16406          |
| (13) 1216             | (33) 7                | (52) 12.1             | (71) 8658                    |
| (14) 96               | (34) $2\frac{4}{399}$ | (53) 45               | (72) 50                      |
| (15) 361              | (35) 2.00             | (54) 2                | (73) $\frac{1}{12}$          |
| (16) 244              | (36) 9108             |                       |                              |
| (17) 210              |                       | (55) 5                | (74) –3                      |
| (18) 3200             | (37) 60               | (56) 16               | (75) 288                     |
| (19) CXX              | (38) 4840             | (57) 8                | (76) 224                     |
| *(20) 190817 – 210903 | (39) 216              | (58) 2                | (77) 214                     |
| (21) 100              | *(40) 1054 – 1164     | (59) 240              | (78) 49                      |
| (22) 999              | (41) 432              | *(60) 7581 – 8379     | (79) 110                     |
|                       | (42) 2343             | (61) 147              | *(80) 50 – 54                |