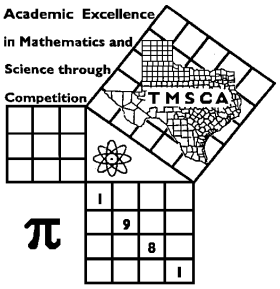
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

PLACE LABEL BELOW

Name:_____ School:_____

SS/ID Number:_____ City:_____

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



TMSCA MIDDLE SCHOOL`

NUMBER SENSE

TEST #12©

FEBRUARY 20, 2016

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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2015-2016 TMSCA Middle School Number Sense Test #12

(1) $2016 \times 3 =$ _____

(2) $21 + 22 + 23 + 24 + 25 =$ _____

(3) $0.25 =$ _____ (fraction)

(4) $121218 \div 6 =$ _____

(5) $\frac{3}{8} + \frac{3}{8} - \frac{1}{8} =$ _____ (fraction)

(6) $73 \times 11 =$ _____

(7) $936 - 639 =$ _____

(8) $9 \times (3^2 - 1) \div 4 =$ _____

(9) $\frac{2}{3} \times 63 =$ _____

***(10)** $1325 + 2428 - 1743 =$ _____

(11) $\frac{31}{50} =$ _____ %

(12) $48 \times 12\frac{1}{2} =$ _____

(13) $22 \times 28 =$ _____

(14) The mean of 9, 11, and 13 is _____

(15) $14^2 =$ _____

(16) $\frac{5}{11} + \frac{13}{22} =$ _____ (mixed number)

(17) $98 \times 96 =$ _____

(18) $24 \times 27 + 24 \times 33 =$ _____

(19) MCLXVII = _____ (Arabic number)

***(20)** $499 \times 803 =$ _____

(21) $28 \div 3.5 =$ _____

(22) $26 \times 86 =$ _____

(23) 3 ft 4 inches = _____ inches

(24) The greatest common factor of 40 and 70 is _____

(25) The cube root of 216 is _____

(26) $12 \times 44 =$ _____

(27) How many prime numbers are between 40 and 50? _____

(28) The multiplicative inverse of $\frac{7}{12}$ is _____ (mixed number)

(29) $104 \times 113 =$ _____

***(30)** 87.5% of 2481 = _____

(31) Angles X and Y form a linear pair, and X has measure 50°, then measure Y= _____ °

(32) 32.71 grams = _____ milligrams

(33) $9\frac{3}{4} \times 9\frac{1}{4} =$ _____ (mixed number)

(34) 75 has how many distinct prime divisors? _____

(35) If an $80 pair of shoes is on discount for 20% off, how much will they cost? $ _____

(36) The number of positive integral divisors of 12 is _____

(37) $43^2 - 7^2 =$ _____

(38) $11^2 + 33^2 =$ _____

(39) If $5x = 25$, then $3x + 7 =$ _____

***(40)** $\pi^6 =$ _____

(41) 12% of 48 is 36% of _____

(42) $\frac{11}{9} + \frac{9}{11} =$ _____ (mixed number)

(43) The area of a square with side length 25 is_____

(44) $\sqrt{10609}$ = _____

(45) 1 + 3 + 5 + … + 25 =_____

(46) 2 + 4 + 6 + 8 + … + 28 = _____

(47) The set {u,t,e,x,a,s} has how many subsets? _____

(48) The sum of the interior angles of a dodecagon is _____ degrees

(49) If $f(x) = \sqrt{5x+4}$, then $f(9)$ =_____

***(50)** 166.667×839 =_____

(51) $9\frac{1}{5} \times 11\frac{1}{5}$ = _____(mixed number)

(52) $12 \times \frac{12}{13}$ =_____(mixed number)

(53) 213_5 = _____$_{10}$

(54) The number of distinct diagonals that can be drawn inside a decagon is_____

(55) The positive geometric mean between 2 and 32 is_____

(56) If 1 + 2 + 3 + 4 + … + 23 = 23x, then x = _____

(57) 32(base 5) + 44(base 5) = _____(base 5)

(58) $13^9 \div 12$ has a remainder of _____

(59) $\sqrt[3]{\frac{64}{27}}$ =_____(mixed number)

***(60)** $20 \times 25 \times 30$ =_____

(61) $9^2 \div 0.25$ =_____

(62) 235×111 = _____

(63) If $63^2 - 37^2 = 100k$, then k = _____

(64) 98×107 =_____

(65) .040404…+ .404040… =_____

(66) $\frac{1+3+5+7+...+35}{1+3+5}$ =_____

(67) $(12^2 + 36^2) \div (12^2 + 24^2)$ =_____

(68) Given $595 \div 5 = 119$, then $595 \div 35$ =_____

(69) $23_5 \times 3_5$ =_____$_5$

***(70)** $\sqrt{44378}$ = _____

(71) If P and Q are roots of $3x^2 - 7x + 5 = 0$, then PQ – (P + Q) = _____

(72) If $f(x) = x^2 + 8x + 16$, then f(26) =_____

(73) The number of ways to arrange 5 people in a circle is _____

(74) If 2 a's = 9 b's and 4 b's = 7 c's, then 1a = _____c's

(75) The point (5, -3) is on the line 5x – 2y = C, C= ___

(76) Find the missing leg of a triangle if the hypotenuse is 17 and one leg is 15._____

(77) 792×101 =_____

(78) If $5^x = 48$, then 5^{x+2} = _____

(79) If $\log_8 x = 3$, then x = _____

***(80)** $34512 \div 147$ = _____

2015-2016 TMSCA Middle School Number Sense Test #12 Key

(1) 6048

(2) 115

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

(4) 20203

(5) $\frac{5}{8}$

(6) 803

(7) 297

(8) 18

(9) 42

***(10) 1910 –2110**

(11) 62

(12) 600

(13) 616

(14) 11

(15) 196

(16) $1\frac{1}{22}$

(17) 9408

(18) 1440

(19) 1167

***(20) 380663 – 420731**

(21) 8

(22) 2236

(23) 40

(24) 10

(25) 6

(26) 528

(27) 3

(28) $1\frac{5}{7}$

(29) 11752

***(30) 2063 –2279**

(31) 130

(32) 32710

(33) $90\frac{3}{16}$

(34) 2

(35) 64.00

(36) 6

(37) 1800

(38) 1210

(39) 22

***(40) 914 – 1009**

(41) 16

(42) $2\frac{4}{99}$

(43) 625

(44) 103

(45) 169

(46) 210

(47) 64

(48) 1800

(49) 7

***(50) 132842 – 146825**

(51) $103\frac{1}{25}$

(52) $11\frac{1}{13}$

(53) 58

(54) 35

(55) 8

(56) 12

(57) 131

(58) 1

(59) $1\frac{1}{3}$

***(60) 14250 – 15750**

(61) 324

(62) 26085

(63) 26

(64) 10486

(65) $\frac{4}{9}$

(66) 36

(67) 2

(68) 17

(69) 124

***(70) 201 – 221**

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

(72) 900

(73) 24

(74) 7.875, $7\frac{7}{8}$, or $\frac{63}{8}$

(75) 31

(76) 8

(77) 79992

(78) 1200

(79) 512

***(80) 224 – 246**