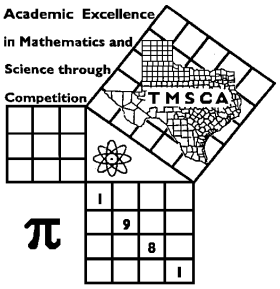
1st Score: _____ Grader: _____	2nd Score: _____ Grader: _____	3rd Score: _____ Grader: _____	**Final Score**

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 #3©

NOVEMBER 7, 2015

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 #3

(1) 2016×5 = _____

(2) 11×97 = _____

(3) $14 + 17 - 11$ = _____

(4) $185 \div 5$ = _____

(5) 12×18 = _____

(6) 0.72 = _____(fraction)

(7) $97803 \div 8$ has a remainder of _____

(8) $8^2 \div (3 \times 5 + 1)$ = _____

(9) $\frac{11}{20}$ = _____(decimal)

***(10)** $3271 - 1428 + 6312$ = _____

(11) 15 + 18 + 21 + 24 + 27 + 30 + 33 = _____

(12) $237 \div 9$ = _____(mixed number)

(13) 69×61 = _____

(14) 3 yard + 1 foot + 7 inches = _____inches

(15) 26^2 = _____

(16) $\frac{3}{4} + \frac{6}{8} + \frac{15}{20}$ = _____(improper fraction)

(17) $9 \times 9 \times 9$ = _____

(18) $43 \times 27 + 7 \times 27$ = _____

(19) XLIV + CX = _____(Arabic Numeral)

***(20)** 888×727 = _____

(21) 12.5×88 = _____

(22) 78×82 = _____

(23) $25 \times 7\frac{7}{25}$ = _____

(24) $2016 = 2^5 \times$ _____

(25) What is the largest prime divisor of 145? _____

(26) There are_____composite numbers less than 11.

(27) Find the LCM of 44 and 77. _____

(28) $8! \div 9$ has a remainder of _____

(29) 98×89 = _____

***(30)** 230 gallons = _____cubic inches

(31) If the largest angle in an isosceles triangle is $98°$, then the measure of the smallest angle is_____ °

(32) 44 has how many positive integral divisors?_____

(33) 8 gallon = _____quarts

(34) $\frac{13}{11} + \frac{11}{13}$ = _____(mixed number)

(35) If $7x + 5 = 82$, then x = _____

(36) Jose charges $5 for 3 hot dogs. How much will a dozen hot dogs cost at this rate? $_____

(37) Find the area of a rectangle with length 22 and width 18. _____

(38) $17^2 + 51^2$ = _____

(39) If $5x + 11 = 21$, then x^3 = _____

***(40)** 45% of 45^2 = _____

(41) 5 mi^2 = _____acres

(42) 98×105 = _____

(43) Find the area of a trapezoid with bases 11 and 19 with a distance of 12 between the two bases. ____

(44) $\sqrt{529}$ = _____

(45) 1 + 2 + 3 + … + 31 = _____

(46) If $f(x) = \frac{101}{x}$, then $f\left(\frac{1}{99}\right)$ = _____

(47) How many subsets does {b, r, y, a, n, t} have that contain exactly 2 elements? _____

(48) How many distinct diagonals can be drawn inside an octagon? _____

(49) 32_{10} = _____$_3$

*(50) 428571×98 = _____

(51) $23 \times \frac{23}{28}$ = _____(mixed number)

(52) $4 - \left(\frac{3}{5} + \frac{5}{3}\right)$ = _____(mixed number)

(53) In the arithmetic sequence …, x, 9, y, …, the value of x + y is _____

(54) The slope of 2x – 7y = 20 is _____

(55) The diameter of a circle has endpoints (0, 0) and (8, 15). The length of the radius is _____

(56) $53_6 \div 3_6$ = _____$_6$

(57) $\frac{2}{7}$ of a gallon = _____cubic inches

(58) $(19^9) \div 5$ has a remainder of _____

(59) If $18^2 - 12^2 = 5k$, then k = _____

*(60) $19^3 + 20^3 + 21^3$ = _____

(61) 5 + 8 + 11 + … + 32 = _____

(62) 85×45 = _____

(63) Find the perimeter of a right triangle with integer sides if the shortest leg is 5. _____

(64) What is the 11th triangular number? _____

(65) If a regular polygon has a side length of 5 and exterior angle of 30°, then its perimeter is _____

(66) The slope of a line with y-intercept –4 and x-intercept of –10 is _____

(67) If $\sqrt{7 \times 8 \times 9} = a\sqrt{b}$, then a = _____

(68) If $x^2 - 7x + 12 = (x + p)(x + q)$, find the greater of p and q. _____

(69) 737×111 = _____

*(70) Find the area of a circle with radius 21. _____

(71) 932×101 = _____

(72) If $f(x) = 3x^3 - 5x^2 + 4x - 2$ then f(2) = _____

(73) If an urn contains 3 red marbles, 4 blue marbles and k orange marbles, find k if the probability of choosing a red marble is $\frac{1}{5}$. _____

(74) If the sum of the roots of $ax^2 + 12x + 10 = 0$ is -3, then a = _____

(75) If $8! + 4 \times 6! = k(6!)$, then k = _____

(76) 2016×25 = _____

(77) If $\sqrt[5]{x + 2} - 4 = -2$, then x = _____

(78) If $10^x = 7$, then 10^{x+5} = _____

(79) If 3x – y = 5 and 4x + y = 9, then x = _____

*(80) 7325 feet = _____inches

2015-2016 TMSCA Middle School Number Sense Key #3

(1) 10080

(2) 1067

(3) 20

(4) 37

(5) 216

(6) $\frac{18}{25}$

(7) 3

(8) 4

(9) .55

***(10) 7748 – 8562**

(11) 168

(12) $26\frac{1}{3}$

(13) 4209

(14) 127

(15) 676

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

(17) 729

(18) 1350

(19) 154

***(20) 613298 – 677854**

(21) 1100

(22) 6396

(23) 182

(24) 63

(25) 29

(26) 5

(27) 308

(28) 0

(29) 8722

***(30) 50474 – 55786**

(31) 41

(32) 6

(33) 32

(34) $2\frac{4}{143}$

(35) 11

(36) 20.00

(37) 396

(38) 2890

(39) 8

***(40) 866 – 957**

(41) 3200

(42) 10290

(43) 180

(44) 23

(45) 496

(46) 9999

(47) 15

(48) 20

(49) 1012

***(50) 39899961–44099955**

(51) $18\frac{25}{28}$

(52) $1\frac{11}{15}$

(53) 18

(54) $\frac{2}{7}$

(55) 8.5, $8\frac{1}{2}$ or $\frac{17}{2}$

(56) 15

(57) 66

(58) 4

(59) 36

***(60) 22914 – 25326**

(61) 185

(62) 3825

(63) 30

(64) 66

(65) 60

(66) $-\frac{2}{5}$

(67) 6

(68) – 3

(69) 81807

***(70) 1317 – 1454**

(71) 94132

(72) 10

(73) 8

(74) 4

(75) 60

(76) 50400

(77) 30

(78) 700000

(79) 2

***(80) 83505 – 92295**