CONTESTANT ID #: _____

GRADE LEVEL: _____

Place Contestant ID Label HERE
AFTER Test has been Scored.

PSIA
Private Schools
Interscholastic
Association

Number Sense
DISTRICT Contest
Grades 6-8

2017

Grader #1 Score:_____

Grader #2 Score:_____

Grader #3 Score: _____

FINAL SCORE: _____

(Please do not open test until the signal is given to begin.)

1. $498 + 327 =$ _____
2. $2017 + 2017 + 2017 =$ _____
3. $\frac{5}{6} \times 42 =$ _____
4. $1000 - 239 =$ _____
5. $540 \div 6 =$ _____
6. $11 \times 41 =$ _____
7. $16^2 =$ _____
8. $75 + 80 + 85 + 90 + 95 =$ _____
9. $734 - 437 =$ _____
10. * $1528 + 1349 + 1199 =$ _____
11. $14 \div 2 - 3 \times 2 =$ _____
12. $32 \times 30 =$ _____
13. Which is larger: $\frac{5}{7}$ or $\frac{4}{5}$? _____
14. $25 \times 72 =$ _____
15. The median of 8, 7, 12, 4, 16, and 17 is _____
16. $\frac{5}{8} - \frac{1}{3} =$ _____
17. $31 \times 24 + 19 \times 24 =$ _____
18. $0.75 \div 0.25 =$ _____
19. What whole number is between 80 and 89 and is evenly divisible by 6? _____
20. * $706 \times 607 =$ _____
21. The GCD of 42 and 56 is _____
22. 40% of 120 is _____
23. If $n = 5$, then $7n - 2 =$ _____
24. $1 + 2 + 3 + 4 + \ldots + 10 =$ _____
25. $\sqrt{81} =$ _____
26. $3\frac{1}{3}$ yards = _____ feet
27. $24 - 9 \times 4 =$ _____
28. $555 \times 7 =$ _____
29. If 3 donuts cost \$2.50, how much will a dozen donuts cost? \$ _____
30. * $32934 \div 398 =$ _____
31. How many prime numbers are there between 20 and 30? _____
32. $5\frac{1}{7} \times 2\frac{1}{7} =$ _____ (mixed number)
33. If $6x - 3 = 15$, then $x =$ _____
34. $7\frac{1}{4}$ meters = _____ centimeters
35. The length of a rectangle is 18 inches and its width is 15 inches. What is its perimeter? _____ inches
36. $2\frac{2}{5} + 4\frac{4}{5} =$ _____ (mixed number)
37. The additive inverse of 7 is _____
38. $0.49 \times 0.51 =$ _____ (decimal)
39. The sum of two consecutive integers is 25. What is the larger integer? _____
40. * $21 \times 22 \times 23 =$ _____
41. The next term in the sequence 8, 15, 22, 29, ... is _____
42. The area of a circle is 49π. What is the diameter? _____

43. $33\frac{1}{3} \times 12 =$ _____

44. If $3 - 2x \leq 5$, then $x \geq$ _____

45. $97 \times 94 =$ _____

46. How many total subsets does the set $\{1, 3, 7, 5\}$ have?
_____

47. The sum of the positive integral divisors of 300 is
_____

48. $46^2 =$ _____

49. $\frac{11}{15} + \frac{15}{11} =$ _____ (mixed number)

* 50. $\sqrt{676869} =$ _____

51. The area of a rhombus whose diagonals are 8 cm and 9 cm is _____ cm^2

52. $2\frac{1}{2}\% =$ _____ (fraction)

53. $8^3 - 7^3 - 7^3 + 6^3 =$ _____

54. The hypotenuse of a right triangle whose legs are 5 and 12 is _____

55. 234 (base 5) = _____ (base 10)

56. Each exterior angle of a regular nonagon measures
_____ degrees

57. $(51 \times 7 + 15) \div 8$ has a remainder of _____

58. The volume of a cube whose sides measure 5 feet is
_____ cubic feet

59. $11\frac{11}{12} \div 4\frac{1}{3} =$ _____ (mixed number)

* 60. $13\pi^3 =$ _____

61. $11^2 + 33^2 =$ _____

62. $101 \times 373 =$ _____

63. Find the slope of the line that passes through the points $(3, 7)$ and $(-2, 27)$. _____

64. The decimal value of $\frac{1}{45}$ is 0._____ (4 decimal places)

65. The volume of a right circular cylinder is 108π cm^3. If the height is 12 cm, what is the radius?
_____ cm

66. What is the y-intercept of $2x - 7y = 14$? _____

67. $1 - 2[3 - (4 \times 5) - 6] =$ _____

68. 60 miles per hour = _____ feet per second

69. A pair of dice are tossed. What is the probability of getting a sum of 11? _____

* 70. $1428 \times 42.8 =$ _____

71. $\frac{576}{625} =$ _____ (decimal)

72. The x-coordinate of the vertex of $y = 3x^2 - 24x + 17$ is _____

73. $\frac{5^4 \times 5^2}{5^3} =$ _____

74. 10% less than 34 is _____ (decimal)

75. If $\sqrt{x} = 7$, then $x - 2\sqrt{x} + 1 =$ _____

76. $34_6 \times 3_6 =$ _____ 6

77. The 7th triangular number is _____

78. If $f(x) = 6x - 8$, then $f(-3) =$ _____

79. The sum of the roots of $x^2 + 9x - 10 = 0$ is _____

* 80. $\sqrt{1} + \sqrt{2} + \sqrt{3} + \sqrt{4} + \ldots + \sqrt{100} =$ _____

For each estimation problem, the exact value (rounded to two decimal places) appears in square brackets.

(1) 825

(2) 6051

(3) 35

(4) 761

(5) 90

(6) 451

(7) 256

(8) 425

(9) 297

***(10)** 3873 – 4279
[4076]

(11) 1

(12) 960

(13) $\frac{4}{5}$; .8

(14) 1800

(15) 10

(16) $\frac{7}{24}$

(17) 1200

(18) 3

(19) 84

***(20)** 407115 – 449969
[428542]

(21) 14

(22) 48

(23) 33

(24) 55

(25) 9

(26) 10

(27) –12

(28) 3885

(29) 10.00
not 10

***(30)** 79 – 86
[82.75]

(31) 2

(32) $11\frac{1}{49}$

(33) 3

(34) 725

(35) 66

(36) $7\frac{1}{5}$

(37) –7

(38) .2499

(39) 13

***(40)** 10095 – 11157
[10626]

(41) 36

(42) 14

(43) 400

(44) –1

(45) 9118

(46) 16

(47) 868

(48) 2116

(49) $2\frac{16}{165}$

***(50)** 782 – 863
[822.72]

(51) 36

(52) $\frac{1}{40}$

(53) 42

(54) 13

(55) 69

(56) 40

(57) 4

(58) 125

(59) $2\frac{3}{4}$

***(60)** 383 – 423
[403.08]

(61) 1210

(62) 37673

(63) –4

(64) 0222
Also accept 0223

(65) 3

(66) –2

(67) 47

(68) 88

(69) $\frac{1}{18}$

***(70)** 58063 – 64174
[61118.4]

(71) .9216

(72) 4

(73) 125

(74) 30.6

(75) 36

(76) 150

(77) 28

(78) –26

(79) –9

***(80)** 638 – 705
[671.46]