University Interscholastic League
2018 – 2019 Elementary Number Sense Test B

Contestant's Number _____

Final	_____	_____
2nd	_____	_____
1st	_____	_____
	Score	**Initials**

Read Directions Carefully Before Beginning Test

Do Not Unfold This Sheet Until Told to Begin

Directions: Do not turn this page until the person conducting this test gives the signal to begin. This is a ten-minute test. There are 80 problems. Solve accurately and quickly as many as you can in the order in which they appear. ALL PROBLEMS ARE TO BE SOLVED MENTALLY. Make no calculations with paper and pencil. Write only the answer in the space provided at the end of each problem. Problems marked with a (*) require approximate integral answers; any answer to a starred problem that is within five percent of the exact answer will be scored correct; all other problems require exact answers.

The person conducting this contest should explain these directions to the contestants.

Stop – Wait for Signal!

(1) $67 - 25 =$ _____

(2) $41 + 59 =$ _____

(3) $413 - 314 =$ _____

(4) $17 \times 3 =$ _____

(5) $8 \times 12 =$ _____

(6) $4 + 18 - 7 =$ _____

(7) $121 \div 11 =$ _____

(8) Which digit is in the ten-thousands place in 201837.6495 ? _____

(9) $2 \times 9 \times 5 =$ _____

*(10) $2018 + 2109 + 73 =$ _____

(11) $804 \div 6 =$ _____

(12) 76231.05882 rounded to the thousandths place is _____(decimal)

(13) $11 \times 13 + 12 \times 11 =$ _____

(14) MMXVIII =_____(Arabic numeral)

(15) $47 \times 67 =$ _____

(16) $12 \times 13 =$ _____

(17) $15 \times 18 =$ _____

(18) $4\times10^2 + 6\times10^0 + 7\times10^{-1} =$_____ (decimal)

(19) $5793 \div 9$ has a remainder of _____

*(20) $7102 \times 143 =$ _____

(21) $18 + 12 \div 3 =$ _____

(22) $\frac{7}{15} + \frac{2}{15} =$_____(common fraction)

(23) $2\frac{1}{2}$ days =_____hours

(24) $25 \times 44 =$ _____

(25) $\frac{7}{5} =$_____(decimal)

(26) Which is larger: $\frac{3}{5}$ or $\frac{5}{8}$? _____

(27) $11 \times 87 =$ _____

(28) 84 percent =_____(common fraction)

(29) The smallest prime number greater than 71 is _____

*(30) $333 \times 181 + 7 =$ _____

(31) 2.5 % = _____(common fraction)

(32) The smallest prime number that can divide evenly into 405 is _____

(33) $11 \times 645 =$ _____

(34) $\frac{9}{10} \div \frac{3}{1000} =$_____

(35) Nine is to six as n is to four. n = _____

(36) If 3 ♥ cost 25¢, then 12 ♥ cost_____¢

(37) The least common multiple of 21 and 35 is _____

(38) $\frac{11}{24} + \frac{7}{24} =$_____(common fraction)

(39) $(15 \times 34 - 98) \div 4$ has a remainder of _____

*(40) $45\frac{5}{11} \times 4399 =$_____

(41) $\frac{3}{8} + \frac{1}{6} =$_____(common fraction)

(42) A number, n, added to 14 equals 20. What is n?

_____

(43) If $x = 6$, then $20 + 3x =$ _____

(44) What is the perimeter of an isosceles triangle with congruent sides 15 and the other side 20? _____

(45) 72 inches =_____yards

(46) $3\frac{1}{6} \times 9\frac{1}{6} =$_____ (mixed number)

(47) What is the number, ***k***, in the sequence:
0, 3, 8, ***k***, 24, . . .? _____

(48) $14^2 =$ _____

(49) 212 (Base 3) = _____Base 10

*(50) $16^2 \times 2490 =$ _____

(51) $8 \times \frac{10}{12} =$_____ (mixed number)

(52) $15\frac{5}{6} - 4\frac{7}{12} =$_____ (mixed number)

(53) $103 \times 104 =$_____

(54) If set A = {E, L, P, A, S, O} and set B = {T, E, X, A, S}, then the number of elements in A $\cup$ B is _____

(55) If four times a number less 24 is the same as 36, then the number is _____

(56) The perimeter of a square with side 4.75 is _____

(57) $63 \times 67 =$_____

(58) For a right triangle, if the length of a hypotenuse is 26 and one leg is 24, then the other leg is_____

(59) If the circumference of a circle is 24π, then the area of the circle is $k\pi$, and ***k*** = _____

*(60) $417 \times 1199 =$ _____

(61) $(-6) - (-4) \times (-3) =$ _____

(62) $5^3 + 4^3 \div 2^3 =$ _____

(63) The additive inverse of $-\frac{23}{5}$ is _____

(64) The number of edges in a cube is_____

(65) If $9^2 + x^2 = 90$, then $x =$ _____

(66) If a pair of dice are thrown, the probability that the sum of the dice equals 9 is _____

(67) What is the area of a parallelogram with base 8 and with altitude $12\frac{1}{2}$?_____

(68) $\sqrt{78400} =$ _____

(69) 76 (Base 8) =_____ (Base 2)

*(70) $749^2 =$ _____

(71) $36 \times 3\frac{1}{4} =$ _____

(72) What is the area of a rhombus with diagonals $4\frac{1}{2}$ and 4? _____

(73) $24^2 - 20^2 = 4k$ and ***k*** = _____

(74) If $8 - 5x > 33$, then $x <$ _____

(75) $61^2 =$ _____

(76) If a black bag contains 4 red, 6 blue and 10 green marbles, what is the probability of drawing a single blue marble? _____

(77) $22\frac{2}{9}$ % of 27 is _____

(78) What is the distance from negative 18 to positive 41 on the number line? _____

(79) $(2.5)^2 + (7.5)^2 =$ _____

*(80) $99 \times 100 \times 101 =$ _____

2018 – 2019 University Interscholastic League Elementary Number Sense Test B – Key

(1) 42

(2) 100

(3) 99

(4) 51

(5) 96

(6) 15

(7) 11

(8) 0

(9) 90

*(10) 3990 – 4410

(11) 134

(12) 76231.059

(13) 275

(14) 2018

(15) 3149

(16) 156

(17) 270

(18) 406.7

(19) 6

*(20) 964807 – 1066365

(21) 22

(22) $\frac{3}{5}$

(23) 60

(24) 1100

(25) 1.4

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

(27) 957

(28) $\frac{21}{25}$

(29) 73

*(30) 57266 – 63294

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

(32) 3

(33) 7095

(34) 300

(35) 6

(36) 100

(37) 105

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

(39) 0

*(40) 189957 – 209952

(41) $\frac{13}{24}$

(42) 6

(43) 38

(44) 50

(45) 2

(46) $29\frac{1}{36}$

(47) 15

(48) 196

(49) 23

*(50) 605568 – 669312

(51) $6\frac{2}{3}$

(52) $11\frac{1}{4}$

(53) 10712

(54) 8

(55) 15

(56) 19

(57) 4221

(58) 10

(59) 144

*(60) 474984 – 524982

(61) -18

(62) 133

(63) $\frac{23}{5}$; $4\frac{3}{5}$; 4.6

(64) 12

(65) 3

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

(67) 100

(68) 280

(69) 111110

*(70) 532951 – 589051

(71) 117

(72) 9

(73) 44

(74) -5

(75) 3721

(76) $\frac{3}{10}$; .3

(77) 6

(78) 59

(79) 62.5; $62\frac{1}{2}$; $\frac{125}{2}$

*(80) 949905 – 1049895

Note: *(Number) x – y means an integer between x and y inclusive.
If an answer is of the type like 2/3 it cannot be written as .666… or $.\overline{6}$.