University Interscholastic League
2019 – 2020 Elementary Number Sense Test A

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) $202 + 219 =$ _____

(2) $97 - 34 =$ _____

(3) $202 \times 4 =$ _____

(4) $2020 \div 5 =$ _____

(5) $11 \times 15 =$ _____

(6) $132 \div 12 =$ _____

(7) $219 + 220 =$ _____

(8) $19 \times 5 \times 4 =$ _____

(9) Which digit is in the ten-thousandths place in 16239.07485 ? _____

*(10) $2020 \times 11 - 2020 =$ _____

(11) $14 \times 16 =$ _____

(12) $9 \times 12 - 12 \times 6 =$ _____

(13) 13764.08256 rounded to the hundredths place is _____

(14) DLV = _____ (Arabic numeral)

(15) There are _____ even numbers between 4 and 16.

(16) $25 \times 14 =$ _____

(17) $7\times10^2 + 4\times10^{-1} + 3\times10^{-2} =$ _____ (decimal)

(18) $21 \times 101 =$ _____

(19) $4192 \div 5$ has a remainder of _____

*(20) $192034 \div 248 =$ _____

(21) $121 \times 50 =$ _____

(22) $\frac{17}{20} - \frac{11}{20} =$ _____ (common fraction)

(23) $2\frac{1}{2}$ feet = _____ inches

(24) $12 \div 4 \times 2 =$ _____

(25) $\frac{3}{50} =$ _____ decimal

(26) Which is larger: $\frac{9}{14}$ or $\frac{2}{3}$? _____

(27) $75 \times 24 =$ _____

(28) 55 percent = _____ (common fraction)

(29) The sum of the two smallest prime numbers is _____

*(30) $555 \times 1790 + 202 =$ _____

(31) $7\frac{1}{2}$ % = _____ (common fraction)

(32) The sum of the prime factors of 70 is _____

(33) $\frac{7}{20} + \frac{11}{20} =$ _____ (common fraction)

(34) $\frac{13}{10} - \frac{26}{100} =$ _____ (common fraction)

(35) Four is to seven as twenty-four is to n. n = _____

(36) If 18 ♠ cost 75¢, then 6 ♠ cost _____¢

(37) The least common multiple of 36 and 24 is _____

(38) $125 \times 40 =$ _____

(39) $(25 \times 25 \times 25) \div 8$ has a remainder of _____

*(40) $6\frac{1}{4} \times 31980 =$ _____

(41) If $z = 4.5$, then $20 - 4z =$ _____

(42) $\frac{2}{3} - \frac{1}{6} =$ _____ (common fraction)

(43) A number, x, added to 11 equals 15. What is x?

_____

(44) The area of a rectangle is 288 and the length of one side is 72. The length of the other side is _____

(45) 72 inches = _____ feet

(46) $21^2 =$ _____

(47) $6\frac{1}{4} - 4\frac{1}{2} =$ _____ (mixed number)

(48) 37 (Base 8) = _____ Base 2

(49) What is the number, ***k***, in the sequence:
1, 1, 2, ***k***, 5, 8, . . .? _____

*(50) $49^4 \div 24^2 =$ _____

(51) $2 \times 1\frac{1}{4} + \frac{1}{2} =$ _____

(52) $102 \times 103 =$ _____

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

(54) If set A = {B, E, A, U, M, O, N, T} and set B = {T, E, X, L, I, N, E}, then the number of elements in $A \cap B$ is _____

(55) If three times a number added to 9 is the same as 24, then the number is _____

(56) $44 \times 37 \div 4 =$ _____

(57) If $5x - 18 = 102$, then $x =$ _____

(58) What is the volume of a rectangular box with sides, 25 cm, 12 cm and 5 cm? _____ cm^3

(59) A circle has a circumference of 20π. What is the circle's radius? _____

*(60) $\sqrt{231361} =$ _____

(61) $(16) + (-6) \div (-2) =$ _____

(62) $14^2 - 9^2 =$ _____

(63) $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} =$ _____

(64) The number of edges on a cube is _____

(65) $4^2 + 12^2 =$ _____

(66) If a pair of dice is thrown, the probability that the sum of the dice is a multiple of 2 is _____

(67) If the largest angle of an isosceles triangle is 140°, what is the measure of one of the other angles? ____°

(68) $\sqrt{169} + \sqrt{225} =$ _____

(69) 123 (Base 5) = _____ (Base 10)

*(70) $175^2 =$ _____

(71) $88 \times \left(\frac{1}{8} + \frac{3}{8}\right) =$ _____

(72) The perimeter of an equilateral triangle is $3\frac{3}{4}$.
What is the length of one side? _____

(73) Twenty-five quarters = $ _____

(74) If $18 + 3x > 12$, then $x >$ _____

(75) $160 \times 12 =$ _____

(76) If a black bag contains 12 blue, 8 red, and 16 green marbles, what is the probability of randomly drawing a red marble? _____

(77) $44\frac{4}{9}$ % of 36 is _____

(78) If the angles of a quadrilateral are 15°, 143°, and 82°, what is the measure of the fourth angle? _____°

(79) $208 \times 15 =$ _____

*(80) $225 \times 202 \times 98 =$ _____

2019 – 2020 University Interscholastic League Elementary Number Sense Test A – Key

(1) 421

(2) 63

(3) 808

(4) 404

(5) 165

(6) 11

(7) 439

(8) 380

(9) 8

*(10) 19190 – 21210

(11) 224

(12) 36

(13) 13764.08; $13764\frac{2}{25}$; $\frac{344102}{25}$

(14) 555

(15) 5

(16) 350

(17) 700.43

(18) 2121

(19) 2

*(20) 736 – 813

(21) 6050

(22) $\frac{3}{10}$

(23) 30

(24) 6

(25) .06

(26) $\frac{2}{3}$

(27) 1800

(28) $\frac{11}{20}$

(29) 5

*(30) 943970 – 1043334

(31) $\frac{3}{40}$

(32) 14

(33) $\frac{9}{10}$

(34) $\frac{26}{25}$

(35) 42

(36) 25

(37) 72

(38) 5000

(39) 1

*(40) 189882 – 209868

(41) 2

(42) $\frac{1}{2}$

(43) 4

(44) 4

(45) 6

(46) 441

(47) $1\frac{3}{4}$

(48) 11111

(49) 3

*(50) 9508 – 10508

(51) 3

(52) 10506

(53) $2\frac{4}{99}$

(54) 3

(55) 5

(56) 407

(57) 24

(58) 1500

(59) 10

*(60) 457 – 505

(61) 19

(62) 115

(63) $1\frac{1}{12}$; $\frac{13}{12}$

(64) 12

(65) 160

(66) $\frac{1}{2}$; .5

(67) 20

(68) 28

(69) 38

*(70) 29094 – 32156

(71) 44

(72) $1\frac{1}{4}$; $\frac{5}{4}$; 1.25

(73) 6.25

(74) -2

(75) 1920

(76) $\frac{2}{9}$

(77) 16

(78) 120

(79) 3120

*(80) 4231395 – 4676805

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 $.\overline{6}$.