University Interscholastic League
2020 – 2021 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) $112 + 201 =$ _____

(2) $220 \div 5 =$ _____

(3) $23 \times 11 =$ _____

(4) $375 - 204 =$ _____

(5) $16 + 15 + 14 =$ _____

(6) $65 - 14 - 21 =$ _____

(7) $32 \times 25 =$ _____

(8) $415 - 238 =$ _____

(9) $6 \times 32 \times 5 =$ _____

*(10) $201 \times 333 + 67 =$ _____

(11) 51287.29301 rounded to the hundreds place is _____

(12) $18 \times 22 =$ _____

(13) Which digit is in the ten-thousands place in 12340.56789? _____

(14) $101 \times 83 =$ _____

(15) What is the remainder for $2074 \div 9$? _____

(16) How many odd whole numbers are between 5 and 32? _____

(17) $5\times10^3 + 6\times10^1 + 4\times10^{-1} =$ _____ (decimal)

(18) $19 \times 3 + 3 \times 4 =$ _____

(19) MMXX = _____ (Arabic Numeral)

*(20) $449 \times 1109 =$ _____

(21) $1234 + 4321 =$ _____

(22) $18 + 12 \div 3 =$ _____

(23) 15 weeks = _____ days

(24) $3\frac{1}{4}\% =$ _____ decimal

(25) $\frac{7}{36} + \frac{11}{36} =$ _____

(26) $94 \times 98 =$ _____

(27) $0.84 =$ _____ common fraction

(28) If 24 ♣ costs 88¢ then 96 ♣ cost $ _____

(29) $68 \times 62 =$ _____

*(30) $1249 \times 319 =$ _____

(31) $925 \div 25 =$ _____

(32) The smallest prime number greater than 80 is _____

(33) Which is larger: $\frac{11}{12}$ or $\frac{8}{9}$? _____

(34) $\frac{21}{100} \div \frac{63}{100} =$ _____

(35) 120 feet = _____ yards

(36) The LCM of 21 and 14 is _____

(37) $19 + 17 + 15 + 13 =$ _____

(38) 37.5% = _____common fraction

(39) The GCF of 20 and 36 is _____

*(40) $444\frac{4}{9}$ % of 1790 = _____

(41) 22^2 = _____

(42) 8^3 = _____

(43) The volume of a rectangular box with sides 6, 8 and 15 centimeters is _____cm^3

(44) The area of a rectangle with sides 25 m and 32 m is _____ m^2

(45) If $x + 23 = 44$, then x = _____

(46) $\frac{5}{12} \times \frac{8}{15}$ = _____

(47) $8\frac{2}{3} \times 8\frac{1}{3}$ = _____ (mixed number)

(48) 36×75 =_____

(49) If $x = 12$, then $45 - 3x$ = _____

*(50) 18^4 = _____

(51) What is the number, ***k***, in the sequence: 1, 8, 27, ***k***, 125, 216, . . . ?_____

(52) What is the diameter of a circle with an area equal to 49π? _____

(53) What is the perimeter of a right triangle with legs 12 in. and 16 in.? _____ inches

(54) 45×85 =_____

(55) What whole number squared minus eighteen is equal to thirty-one? _____

(56) A rectangle with perimeter 48 has sides that are 8 and ***x***. What is ***x***? _____

(57) If set **A** = {A, B, I, L, E, N, E} and set **B** = {G, R, E, E, N, W, O, O, D}, then the number of elements in $\mathbf{A} \cup \mathbf{B}$ is _____

(58) How many elements are in the power set of {-1, A, 2, B}? _____

(59) What is the perimeter of the regular pentagon with side length of $6\frac{3}{5}$? _____

*(60) 12 miles = _____feet

(61) 312 (base 4) = _____ (base 10)

(62) $32 + 3^2 \div 9 - 1$ =_____

(63) The perimeter of a square with side 2.5 is _____

(64) 46^2 = _____

(65) A black bag contains 10 black, 16 green and 24 red marbles. The probability of blindly picking a green marble is_____

(66) What is the cost of 8 pounds of meat that cost $6.99 per pound? $_____

(67) The sum of the interior angles for a hexagon is _____degrees

(68) If $x + 3 > 21$, then $x >$ _____

(69) $\frac{4}{7} + \frac{7}{4}$ = _____(mixed number)

*(70) $6249 \times 159 + 9$ = _____

(71) 48 ounces = _____quarts

(72) What is the area of a rhombus with diagonal lengths of 25 and 18? _____

(73) If 16% of x is 8% of 14, then x = _____

(74) $(-28) \div (-2) - 17$ = _____

(75) 625×80 = _____

(76) $13^2 + 39^2$ = _____

(77) What is the distance between -17 and 17 on the number line?_____

(78) 678×111 = _____

(79) The area of a square with diagonal 12 is _____

*(80) $\sqrt{166464}$ = _____

2020 – 2021 University Interscholastic League Elementary Number Sense Test B – Key

(1) 313

(2) 44

(3) 253

(4) 171

(5) 45

(6) 30

(7) 800

(8) 177

(9) 960

*(10) 63650 – 70350

(11) 51300

(12) 396

(13) 1

(14) 8383

(15) 4

(16) 13

(17) 5060.4

(18) 69

(19) 2020

*(20) 473044 – 522838

(21) 5555

(22) 22

(23) 105

(24) .0325

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

(26) 9212

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

(28) 3.52

(29) 4216

*(30) 378510 – 418352

(31) 37

(32) 83

(33) $\frac{11}{12}$

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

(35) 40

(36) 42

(37) 64

(38) $\frac{3}{8}$

(39) 4

*(40) 7558 – 8353

(41) 484

(42) 512

(43) 720

(44) 800

(45) 21

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

(47) $72\frac{2}{9}$

(48) 2700

(49) 9

*(50) 99728 – 110224

(51) 64

(52) 14

(53) 48

(54) 3825

(55) 7

(56) 16

(57) 11

(58) 16

(59) 33

*(60) 60192 – 66528

(61) 54

(62) 32

(63) 10

(64) 2116

(65) $\frac{8}{25}$; .32

(66) 55.92

(67) 720

(68) 18

(69) $2\frac{9}{28}$

*(70) 943920 – 1043280

(71) 1.5; $1\frac{1}{2}$; $\frac{3}{2}$

(72) 225

(73) 7

(74) -3

(75) 50000

(76) 1690

(77) 34

(78) 75258

(79) 72

*(80) 388 – 428

Note: *(Number) x – y means an integer between x and y inclusive.

If an answer is of the type like $\frac{2}{3}$ it cannot be written as .666… or $.\overline{6}$.