

**University Interscholastic League  
2016 – 2017 Elementary Number Sense Test B**

Contestant's Number \_\_\_\_\_

Final		
2 <sup>nd</sup>		
1 <sup>st</sup>		
	<b>Score</b>	<b>Initials</b>

**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!**

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|---|--|
| <p>(1) <math>27 + 16 =</math> _____</p> <p>(2) <math>721 - 127 =</math> _____</p> <p>(3) <math>14 \times 6 =</math> _____</p> <p>(4) <math>11 \times 11 =</math> _____</p> <p>(5) <math>2 + 3 + 4 + 5 + \dots + 10 =</math> _____</p> <p>(6) <math>1 \times 1000 + 9 \times 100 + 7 \times 10 + 4 \times 1 =</math> _____</p> <p>(7) <math>415 \div 5 =</math> _____</p> <p>(8) 958307 rounded to the thousands is _____</p> <p>(9) <math>11 \times 5 \times 3 =</math> _____</p> <p>*(10) <math>249 \times 398 =</math> _____</p> <p>(11) <math>12 + 16 + 20 + 24 =</math> _____</p> <p>(12) Which digit is in the tenth's place in 14305.29876? _____</p> <p>(13) <math>20583 \div 5</math> has a remainder of _____</p> <p>(14) MCMXXV = _____ (Arabic numeral)</p> <p>(15) <math>12 \times 26 =</math> _____</p> <p>(16) <math>50 \times 34 =</math> _____</p> <p>(17) 53 minus what equals 27? _____</p> <p>(18) How many odd numbers are between 11 and 48?<br/>_____</p> <p>(19) <math>19 \times 15 =</math> _____</p> <p>*(20) <math>1776 + 2017 + 16 =</math> _____</p> <p>(21) <math>91 \times 95 =</math> _____</p> <p>(22) <math>\frac{7}{24} + \frac{13}{24} =</math> _____ (common fraction)</p> <p>(23) <math>12 + 8 \times 2 =</math> _____</p> <p>(24) 120 seconds = _____ minutes</p> <p>(25) <math>28 \times 75 =</math> _____</p> | <p>(26) <math>19 \times 21 =</math> _____</p> <p>(27) What is the smallest prime number more than 20? _____</p> <p>(28) Which is larger: <math>\frac{9}{13}</math> or <math>\frac{3}{4}</math>? _____</p> <p>(29) <math>18 \times 22 =</math> _____</p> <p>*(30) <math>833 \times 23 =</math> _____</p> <p>(31) <math>\frac{14}{25} =</math> _____ percent</p> <p>(32) The largest prime number that can divide evenly into 78 is _____</p> <p>(33) 11 quarters + 7 nickels = _____ ¢</p> <p>(34) <math>\frac{9}{10} \div \frac{3}{1000} =</math> _____</p> <p>(35) Ten is to eight as fifteen is to n. What is n? _____</p> <p>(36) If 16 ♠ cost 48¢, then 12 ♠ cost _____ ¢</p> <p>(37) What is the greatest common divisor of 24 and 32?<br/>_____</p> <p>(38) <math>\frac{37}{28} - \frac{11}{28} =</math> _____ (common fraction)</p> <p>(39) <math>(30 \times 47) \div 7</math> has a remainder of _____</p> <p>*(40) <math>10 \frac{39}{40} \times 2016 + 17 =</math> _____</p> <p>(41) If <math>x = 7</math>, then <math>12 + 4x =</math> _____</p> <p>(42) <math>\frac{3}{4} + \frac{4}{3} - 2 =</math> _____ (common fraction)</p> <p>(43) What is the least common multiple of 18 and 24?<br/>_____</p> |
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- (44) What is the perimeter of a square with area  $169 \text{ cm}^2$ ?  
\_\_\_\_\_ cm
- (45) 15 years \_\_\_\_\_ months
- (46)  $5\frac{1}{5} \times 10\frac{1}{5} =$  \_\_\_\_\_ (mixed number)
- (47) What is the number,  $k$ , in the sequence:  
3, 12, 27,  $k$ , 75, 108...? \_\_\_\_\_
- (48) What is the diameter of a circle with an area of  $100\pi$ ?  
\_\_\_\_\_
- (49)  $\sqrt{529} =$  \_\_\_\_\_
- \*(50) 49 gallons = \_\_\_\_\_ liquid ounces
- (51) What is the perimeter of an equilateral triangle if  
each side measures  $16\frac{2}{3}$ ? \_\_\_\_\_
- (52)  $6\frac{3}{8} - 2\frac{1}{2} =$  \_\_\_\_\_ (mixed number)
- (53)  $.88 =$  \_\_\_\_\_ (common fraction)
- (54) If set  $A = \{c, e, n, t, r, a, l\}$  and set  $B = \{t, e, x, a, s\}$ ,  
then how many elements are in  $A \cup B$ ? \_\_\_\_\_
- (55)  $111 \times 579 =$  \_\_\_\_\_
- (56) 241 base 6 = \_\_\_\_\_ base 10
- (57)  $143 \times 28 =$  \_\_\_\_\_
- (58) What is the area of a triangle with base 8 and  
height to that base,  $4\frac{1}{2}$ ? \_\_\_\_\_
- (59) If seven times a number is twenty more than twice  
the number, what is the number? \_\_\_\_\_
- \*(60)  $44\frac{4}{9} \times 182 =$  \_\_\_\_\_
- (61)  $(-10) + (-3) \times (5) =$  \_\_\_\_\_
- (62)  $23 \times 27 =$  \_\_\_\_\_
- (63) The additive inverse of  $-\frac{2}{3}$  is \_\_\_\_\_
- (64) What is the area of a rectangle with sides 25 cm and  
 $4\frac{1}{5}$  cm? \_\_\_\_\_  $\text{cm}^2$
- (65) What is the area of a square whose diagonal is  
8 inches? \_\_\_\_\_  $\text{in}^2$
- (66) What is the volume of a rectangular box that  
measures  $6\frac{1}{2}$  cm by 11 cm by 4 cm? \_\_\_\_\_  $\text{cm}^3$
- (67)  $9 - 10 + 11 - 12 =$  \_\_\_\_\_
- (68)  $2^5 =$  \_\_\_\_\_
- (69) 28 (base 10) = \_\_\_\_\_ (base 4)
- \*(70)  $13^2 \times 11^2 =$  \_\_\_\_\_
- (71)  $32 \times 37\frac{1}{2} =$  \_\_\_\_\_
- (72) What is the area of a trapezoid with bases 5 in., 7 in.  
and altitude 12 in.? \_\_\_\_\_  $\text{in}^2$
- (73) If  $4x - 11 < 53$ , then  $x <$  \_\_\_\_\_
- (74)  $71^2 =$  \_\_\_\_\_
- (75) What is the distance between negative nineteen and  
positive twelve on the number line? \_\_\_\_\_
- (76) If a single card is pulled from a standard deck of 52  
cards, what is the probability that a red ace will be  
drawn? \_\_\_\_\_
- (77) 18% of what is the same as 36% of 54? \_\_\_\_\_
- (78) If the angles of a triangle are  $24^\circ$  and  $46^\circ$ , what is  
the measure of the third angle? \_\_\_\_\_  $^\circ$
- (79)  $66^2 + 22^2 =$  \_\_\_\_\_
- \*(80)  $124 \times 16 + 8 \times 180 =$  \_\_\_\_\_

## 2016 – 2017 University Interscholastic League Elementary Number Sense Test B – Key

(1) 43	(26) 399	(44) 52	(61) -25
(2) 594	(27) 23	(45) 180	(62) 621
(3) 84	(28) $\frac{3}{4}$ ; .75	(46) $53\frac{1}{25}$	(63) $\frac{2}{3}$
(4) 121	(29) 396	(47) 48	(64) 105
(5) 54	* (30) 18202 – 20116	(48) 20	(65) 32
(6) 1974	(31) 56	(49) 23	(66) 286
(7) 83	(32) 13	* (50) 5959 – 6585	(67) -2
(8) 958000	(33) 310	(51) 50	(68) 32
(9) 165	(34) 300	(52) $3\frac{7}{8}$	(69) 130
* (10) 94147 – 104057	(35) 12	(53) $\frac{22}{25}$	* (70) 19427 – 21471
(11) 72	(36) 36	(54) 9	(71) 1200
(12) 2	(37) 8	(55) 64269	(72) 72
(13) 3	(38) $\frac{13}{14}$	(56) 97	(73) 16
(14) 1925	(39) 3	(57) 4004	(74) 5041
(15) 312	* (40) 21036 – 23249	(58) 18	(75) 31
(16) 1700	(41) 40	(59) 4	(76) $\frac{1}{26}$
(17) 26	(42) $\frac{1}{12}$	* (60) 7685 – 8493	(77) 108
(18) 18	(43) 72		(78) 110
(19) 285			(79) 4840
* (20) 3619 – 3999			* (80) 3253 – 3595
(21) 8645			
(22) $\frac{5}{6}$			
(23) 28			
(24) 2			
(25) 2100			

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  $\overline{.6}$ .