

## Number Sense Exam 030, 6/29/2017

- (1)  $MMLIX - LIII =$  \_\_\_\_\_ (Arabic Numeral)
- (2)  $\frac{2}{5} \times \frac{5}{2} =$  \_\_\_\_\_
- (3)  $\frac{7}{8} =$  \_\_\_\_\_ (decimal)
- (4)  $9 \times 6 \div 3 - 6 \times 9 =$  \_\_\_\_\_
- (5)  $64\% =$  \_\_\_\_\_ (proper fraction)
- (6)  $2014 \times 6 + 2014 =$  \_\_\_\_\_
- (7)  $735625 \div 11$  has a remainder of \_\_\_\_\_
- (8)  $7.26 - .89 =$  \_\_\_\_\_ (decimal)
- (9)  $\frac{11}{40} =$  \_\_\_\_\_ (decimal)
- \*(10)  $3221 + 4021 - 5112 =$  \_\_\_\_\_
- (11)  $322 \times 13 =$  \_\_\_\_\_
- (12) 2 quarts + 1 pint = \_\_\_\_\_ cups
- (13)  $2010 \div 9 =$  \_\_\_\_\_ (mixed number)
- (14) The LCM of 12, 24, and 18 is \_\_\_\_\_
- (15)  $4 + 9 + 14 + 19 + \dots + 49 =$  \_\_\_\_\_
- (16)  $(36 \times 18 - 12) \div 5$  has a remainder of \_\_\_\_\_
- (17) 18% of 22 = \_\_\_\_\_ (decimal)
- (18)  $13^3 =$  \_\_\_\_\_
- (19)  $27 \times 37 =$  \_\_\_\_\_
- \*(20)  $242 \times 238 - 2400 =$  \_\_\_\_\_
- (21) 12.8 is what percent of 20? \_\_\_\_\_ %
- (22) 12.8 is what percent of 20? \_\_\_\_\_ %
- (23)  $214365 \div 8$  has a remainder of \_\_\_\_\_
- (24)  $(12 \times 21 + 79) \div 5$  has a remainder of \_\_\_\_\_
- (25)  $14^2 + 42^2 =$  \_\_\_\_\_
- (26) If 2 cans cost \$0.49, then half a dozen cans will cost \$ \_\_\_\_\_
- (27)  $3210_4 =$  \_\_\_\_\_ <sub>10</sub>
- (28)  $(-12)^3 =$  \_\_\_\_\_
- (29)  $3367 \times 19 =$  \_\_\_\_\_
- \*(30)  $8\pi^3 =$  \_\_\_\_\_
- (31) Rectangle  $A$  is 8'' by 10'' and rectangle  $B$  is 5'' by 6''. the ratio of  $B$ 's area to  $A$ 's area is \_\_\_\_\_
- (32) If set  $A$  has 6 elements, set  $B$  has 5 elements, and  $A \cap B$  has 4 elements, then  $A \cup B$  has \_\_\_\_\_ elements
- (33)  $\{p, o, w, e, r\} \cup \{s, e, t\}$  has \_\_\_\_\_ distinct elements
- (34) 33 plus 75% of 44 is \_\_\_\_\_
- (35)  $.3222\dots =$  \_\_\_\_\_ (fraction)
- (36) If  $\frac{2}{3} + \frac{4}{5} = \frac{1}{x}$ , then  $x =$  \_\_\_\_\_
- (37)  $9 \times 6! - 18 \times 5! =$  \_\_\_\_\_
- (38) If  $x - y = -5$  and  $x + y = -3$  then  $x^2 - y^2 =$  \_\_\_\_\_
- (39) Let  $A = \{l, y, n, d, a\}$  and  $B = \{d, o, y, c, e\}$ , then  $A \cup B$  has how many elements? \_\_\_\_\_
- \*(40)  $545 \times 449 =$  \_\_\_\_\_
- (41) The sum of the roots of  $2x^3 + 4x^2 - 3x + 5 = 0$  is \_\_\_\_\_
- (42) 16% of  $333\frac{1}{3}$  is \_\_\_\_\_ (mixed number)
- (43) If  $14x + 5 = 23$ , then  $14x - 5 =$  \_\_\_\_\_
- (44) A regular octahedron has \_\_\_\_\_ edges
- (45) If  $x - y = 3$  and  $xy = 3$ , then  $x^3 - y^3 =$  \_\_\_\_\_
- (46)  $114 \times 411 =$  \_\_\_\_\_

- (47) The side opposite  $60^\circ$  in a right triangle is  $3\sqrt{3}$  units. The length of the other side is \_\_\_\_\_ units.
- (48) If  $16^x = 169$ , then  $4^x =$  \_\_\_\_\_
- (49) An octahedron has \_\_\_\_\_ edges
- \*(50)  $12^4 \div 6^3 \times 3^2 =$  \_\_\_\_\_
- (51)  ${}_5C_3 =$  \_\_\_\_\_
- (52) The coefficient of the  $x^2y$  term when  $(2x + y)^3$  is expanded is \_\_\_\_\_
- (53)  ${}_5P_3 =$  \_\_\_\_\_
- (54) Find the 11th term of the arithmetic sequence 4, 10, 16, 22, 28, ... \_\_\_\_\_
- (55)  $96 \times 95 =$  \_\_\_\_\_
- (56) Let  $\frac{8!}{6!} = \frac{x!}{(x-1)!}$ , then  $x =$  \_\_\_\_\_
- (57) An obtuse triangle has sides of 3,  $x$ , and 7. The largest integer value of  $x$  is \_\_\_\_\_
- (58) The odds of rolling a composite number on a single die is \_\_\_\_\_ (proper fraction)
- (59) If  $\log_2(7x + 4) = 5$ , then  $x =$  \_\_\_\_\_
- \*(60)  $142857 \times 55 =$  \_\_\_\_\_
- (61)  $\cos^2 30^\circ - \sin^2 30^\circ =$  \_\_\_\_\_
- (62)  $\sqrt{444889} =$  \_\_\_\_\_
- (63) How much time has passed from 8:20 am to 3:15 pm the same day? \_\_\_\_\_ hours
- (64)  $34 + 13 + 5 + 2 + 1 =$  \_\_\_\_\_
- (65)  $f(x) = 8x^3 - 27$  divided by  $x - 4$  has a remainder of \_\_\_\_\_
- (66)  $1^2 - 2^2 + 3^2 - 4^2 + 5^2 - 6^2 + 7^2 =$  \_\_\_\_\_
- (67)  $\sin(120^\circ) \times \tan(135^\circ) \times \cos(150^\circ) =$  \_\_\_\_\_
- (68)  $\cos \frac{4\pi}{3} =$  \_\_\_\_\_
- (69)  $\left(\tan \frac{5\pi}{6}\right)^2 =$  \_\_\_\_\_
- \*(70)  $(\pi)^3 \times (e)^3 =$  \_\_\_\_\_
- (71)  $\int_0^2 x^3 dx =$  \_\_\_\_\_
- (72)  $2\frac{2}{5} \times 4\frac{1}{6} =$  \_\_\_\_\_
- (73)  $\int_2^4 \left(\frac{x}{2} - 4\right) dx =$  \_\_\_\_\_
- (74)  $\log_6 42 - \log_6 7 + \log_6 36 =$  \_\_\_\_\_
- (75)  $\sum_{k=1}^3 k^k =$  \_\_\_\_\_
- (76) If  $f(x) = x^3 - 3x + 3$ , then  $f'(3) =$  \_\_\_\_\_
- (77)  $101 \times 808 =$  \_\_\_\_\_
- (78)  $\frac{1}{35} + \frac{1}{63} + \frac{1}{99} =$  \_\_\_\_\_
- (79)  $\sum_0^2 (1 - 3x) =$  \_\_\_\_\_
- \*(80)  $571428 \times 34 =$  \_\_\_\_\_