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) \( 4 + 9 + 14 + 19 \ldots + 49 = \) ________________

(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) \( 32104 = \) ________________ 10

(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) \( .3222 \ldots = \) ________________ (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° in a right triangle is $3\sqrt{3}$ units. The length of the other side is _____ units.

(48) If $16^2 = 169$, then $4^2 =$ ________________

(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) $\cos^230° - \sin^230° =$ ________________

(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) $\sin(120°) \times \tan(135°) \times \cos(150°) =$ ________________

(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) $\frac{2}{5} \times \frac{1}{6} =$ ________________

(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) $\sum_{x=0}^2 (1 - 3x) =$ ________________

*(80) $571428 \times 34 =$ ________________