Number Sense Exam 026, 5/12/2017

(1) 18 is _____ % of 30.

(2) $544536 \div 9 =$ _____

(3) $31 \times 29 =$ _____

(4) $79 \times 125 =$ _____

(5) $\frac{3}{8} \times \frac{4}{9} =$ _____

(6) $17 \times 13 =$ _____

(7) $0.875 =$ _____ (proper fraction)

(8) $2002 - 1529 - 17 =$ _____

(9) $16 \div 4 \times 2 + 5 \times 2^2 =$ _____

*(10) $204 + 244 + 240 + 224 =$ _____

(11) $25 \times 2013 =$ _____

(12) Three-fourths of 2 quarts is _____ fluid ounces

(13) $6(5) + 50(6) + 7(10) =$ _____

(14) $72 \div 18 + 2 \times 6 =$ _____

(15) 26 is what percent of 40? _____ %

(16) $1\frac{5}{6} \div 11 =$ _____

(17) $\frac{3}{800} =$ _____ % (decimal)

(18) CCCXIV + MMIX = _____ (Arabic Numeral)

(19) 80% of $(80 + 80)$ is _____

*(20) $841 \times 376 =$ _____

(21) The 11th triangular number is _____

(22) $.121212\ldots + .151515\ldots =$ _____

(23) If 4 widgets costs \$1.25, then one dozen widgets cost \$ _____

(24) $314 \times 17 =$ _____

(25) 9 is to 11 as 12 is to _____

(26) $4\frac{7}{12} \times 2\frac{2}{5} =$ _____

(27) $2\frac{2}{5} \times 8\frac{2}{5} =$ _____

(28) If $f(x) = 2x^3 - 6x^2 + 6x - 2$, then $f(4) =$ _____

(29) $2 - |4 - 7| + |-9 - 1| + 3 =$ _____

*(30) $14 \times 11 \times 33 =$ _____

(31) The next term in the geometric sequence, $\ldots, \frac{2}{5}, \frac{1}{4}, \frac{5}{32}, \ldots$ is _____

(32) $5\frac{1}{3} \times 6\frac{1}{5} =$ _____ (mixed number)

(33) If $x + (x+1) + (x+2) + (x+3) = 66$, then $(x+4) =$ _____

(34) _____% of 56 is 110% of 28

(35) $\sqrt{81} \div \sqrt[3]{729} =$ _____

(36) Find the units digit of 13^7. _____

(37) $\sqrt{175} + \sqrt{112} = \sqrt{x}$. Find x. _____

(38) The number of positive integral divisors of 404 is _____

(39) What number added to 8 and divided by 4 gives the same results? _____

*(40) $\sqrt[3]{1329} \times \sqrt{171} \times 15 =$ _____

(41) $.32222\ldots =$ _____ (fraction)

(42) $(2 + 3\mathrm{i})^2 = a + b\mathrm{i}$ and $a =$ _____

(43) If $2x + y = 4$ and $x - y = 2$, then $y =$ _____

(44) The number of distinct diagonals in a regular nonagon is _____

(45) The first 4 digits of $\frac{245}{990}$ is 0. _____

(46) $911 \div .090909\ldots =$ _____

(47) $18 \times 24 + 9 =$ _____

(48) $453_7 \div 6_7 =$ _____ $_7$

(49) $5^4 \times 4^4 =$ _____

*(50) $444 \times 33\frac{1}{3} \div 0.444\ldots =$ _____

(51) $(2 - 5\mathrm{i})(3 - 4\mathrm{i}) = a + b\mathrm{i}$. Find $a - b$. _____

(52) 45 degrees $= \frac{\pi}{k}$ radians. Find k. _____

(53) $222 \times \frac{2}{37} =$ _____

(54) How many distinct 5 letter words, real or imaginary, can be made using the letters s, c, o, t, t?

(55) The simplified coefficient of the third term in the expansion of $(2x + y)^6$ is? _____

(56) Find the distance between the point $(3, 4)$ and the line $y = -2$. _____

(57) The parabola $y = x^2 - 2x + 1$ has a vertex at (h, k). Find h. _____

(58) The vertex of the parabola $y = 2x^2 + 8x - 1$ is (h, k) and $k =$ _____

(59) $\log_5 \sqrt{125} =$ _____

*(60) $10e \times 10\pi \times 10\phi =$ _____

(61) How many 6-digit numbers end in a 7? _____

(62) $\left[2\sin\left(\frac{\pi}{6}\right)\cos\left(\frac{\pi}{6}\right)\right] \times \left[\tan\left(\frac{\pi}{6}\right)\right] =$ _____

(63) $2\sin\left(\frac{5\pi}{12}\right)\cos\left(\frac{5\pi}{12}\right) =$ _____

(64) If $\sin 27^\circ = \cos A$ and $A \in QI$, then $A =$ _____ $^\circ$

(65) $2! + 3! + 4! \equiv x (\mathrm{mod} 5)$ and $0 \leq x \leq 4$. $x =$ _____

(66) How many ways can Huey, Dewey, and Louie sit in a row of four chairs? _____

(67) If $\log 3 = .48$, then $\log 9 =$ _____

(68) $\frac{5}{6} + 1.2 - 2 =$ _____

(69) $2\sin 165^\circ \cos 165^\circ =$ _____

*(70) $31.4 \times 27.2 \times 16.2 =$ _____

(71) $4(4!) - 3(3!) - 2(2!) - 1(1!) =$ _____

(72) If $f(x) = \frac{5x + 3}{x - 1}$, then $f'(2) =$ _____

(73) The dot product of $u = (4, 2)$ and $v = (-1, 3)$ is _____

(74) If $\begin{bmatrix} 1 & 1 \\ 2 & 3 \end{bmatrix} \times \begin{bmatrix} 2 & 1 \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then $a + c =$ ___

(75) $(4, 60^\circ)$ are polar coordinates for the (x, y) rectangular coordinates. $x =$ _____

(76) $4^8 \div 7$ has a remainder of _____

(77) If $f(x) = 2x^3 - 6$, then $f'(-1) =$ _____

(78) $y = \frac{1}{x + 1} - 3$ has a horizontal asymptote at $y =$

(79) $143 \times 49 = 1001 \times$ _____

*(80) $5\frac{1}{3} \times 138120 \div 32 =$ _____