Number Sense Exam 048, 11/4/2017

(1) $25 \times 43 =$ _____

(2) $1.3 + 2.6 + 3.6 =$ _____

(3) $2008 \times 75 =$ _____

(4) Which is larger: $-\frac{4}{9}$ or $-\frac{3}{7}$? _____

(5) $0.8333\ldots =$ _____ (proper fraction)

(6) $3 + 2 \times 1 - 20 \div 15 =$ _____

(7) $897 + 466 =$ _____

(8) $2005 \times 5 - 2005 =$ _____

(9) $22\frac{2}{9}\% =$ _____ (proper fraction)

*(10) $5102 - 2015 + 321 - 123 =$ _____

(11) $\frac{6}{5} - \frac{5}{6} =$ _____

(12) How many positive integers less than 24 are relatively prime to 24? _____

(13) $28 \div 3\frac{1}{2} =$ _____

(14) $20.16 \times 75 =$ _____

(15) The reciprocal of .24 is _____

(16) The LCM of 72 and 54 is _____

(17) CCLXXX $\div$ XIV = _____ (Arabic Numeral)

(18) 44 is what % of 80? _____ %

(19) $8\frac{1}{3}\% + 16\frac{2}{3}\% =$ _____ (fraction)

*(20) $(115 + 2013) \times 511 =$ _____

(21) A rectangle has a length of 2.4 in and a width of 1.5 in. Its area is _____ sq. in.

(22) If the line $9x - 7y = k$ has an x-intercept of $(4, 0)$, then $k =$ _____

(23) The largest positive prime divisor of 28^2 is _____

(24) $(15 \times 30 - 45) \div 7$ has a remainder of _____

(25) If $24^2 - 20^2 = 11k$, then $k =$ _____

(26) $(26 \times 24 - 22) \div 7$ has a remainder of _____

(27) $\sqrt[3]{-1331} =$ _____

(28) Find the ratio of the perimeter of a $4''$ by $7''$ rectangle to its area. _____

(29) If 13 bagels cost \$14.30, then 7 bagels cost \$ _____

*(30) 87% of 789 = _____

(31) $12_8 + 34_8 + 56_8 =$ _____ $_8$

(32) The number of distinct elements in $\{M, A, T, H\} \cup \{F, U, N\}$ is _____

(33) 24% of $233\frac{1}{3} =$ _____

(34) How far do you travel in 2 hrs and 20 minutes at a constant speed of 60 miles per hour? _____ miles

(35) Truncate $\sqrt{\pi \times \pi}$ to the hundredth place as a decimal _____

(36) $9^3 =$ _____

(37) $4\frac{1}{3} \times 5\frac{1}{3} =$ _____ (mixed number)

(38) If $\sqrt{44} + \sqrt{99} = \sqrt{x}$, then $x =$ _____

(39) If $5x - 4 = 3x - 6$ then $x =$ _____

*(40) $\sqrt{13579} =$ _____

(41) $715 \times 28 =$ _____

(42) $312 \times 213 =$ _____

(43) $34 \times 74 =$ _____

(44) The units digit of 13^{13} is _____

(45) $\sqrt[3]{1061208} =$ _____

(46) Find the area of a triangle with side lengths of 11 cm, 60 cm, and 61 cm. _____ cm^2

(47) The vertex of $y = 2x^2 - 4x + 2$ is (h, k). Find h. _____

(48) $15 \times 18 + 9 \times 30 =$ _____

(49) $40°\text{C} =$ _____ °F

*(50) $12 \times 14 \times 16 =$ _____

(51) If $\sqrt{16 - \sqrt{12\sqrt{4-x}}} = 2$, then $x =$ _____

(52) $2 - |-3 + |-5| - 7| =$ _____

(53) $31_6 + 22_6 - 35_6 =$ _____ $_6$

(54) $\frac{\pi}{18}$ radians = _____ degrees

(55) How many integers between 3 and 30 are relatively prime to 30? _____

(56) $(4 + k\text{i})^2 = -33 + 56\text{i}$. Find k. _____

(57) $\sqrt{7744} =$ _____

(58) $551_6 + 334_6 + 125_6 =$ _____ $_6$

(59) $(1 + i)^6 =$ _____

*(60) $9^3 \div 18^2 \times 125 =$ _____

(61) $1^2 - 2^2 + 3^2 - 4^2 + \ldots - 10^2 =$ _____

(62) $19^2 - 18^2 + 17^2 - 16^2 =$ _____

(63) How many 3 digit integers end in either a 6 or a 7? _____

(64) $\sec^2(45°) - \tan^2(45°) =$ _____

(65) If $\cos(\theta) = -.25$, then $\sec(\theta) =$ _____

(66) A pair of dice is rolled. What are the odds of getting a sum of 11? _____

(67) $\begin{bmatrix} 1 & 1 \\ 2 & 3 \end{bmatrix} \times \begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix} = \begin{bmatrix} a & c \\ b & d \end{bmatrix}$. Find $a - d$. _____

(68) $8883 \div 987 =$ _____

(69) The sum of the positive integers less than 18 and relatively prime to 18 is _____

*(70) $(3.14)^e \times (2.718)^\pi =$ _____

(71) The polar coordinates $(2, 60°)$ have a rectangular cooridinates (h, k). $h =$ _____

(72) Find k, $0 \le k \le 6$, if $(4!)(3!) \equiv k (\text{mod} 7)$. _____

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

(74) The ellipse $2x^2 + y^2 - 4x + 3y + 8 = 0$ has a center point at (h, k) and $h =$ _____

(75) $15 \times \frac{15}{19} - 15 =$ _____ (mixed number)

(76) $\int_0^1 1 - x^2 \, dx =$ _____

(77) The hyperbola $x^2 - y^2 = 1$ has an asymptote $y = mx$. If $m < 0$ then $m =$ _____

(78) Given the sequence $1, 0, 2, 3, 6, 10, \ldots, 46, k, 122, \ldots$. Find k. _____

(79) $\lim_{x \to 3} \left(\frac{x^2 - 2}{x + 3} \right) =$ _____

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