Number Sense Exam 016, 3/10/2017

(1) $50 \times 200.8 =$ _____

(2) $10 - 8 + 6 \times 4 \div 2 =$ _____

(3) $12.3 \times .4 =$ _____ (decimal)

(4) $33^2 =$ _____

(5) $2010 \div 11$ has a remainder of _____

(6) $2009 - 314 =$ _____

(7) $11 \times 54 =$ _____

(8) $20.15 - 2.015 =$ _____ (decimal)

(9) XLII = _____ (Arabic Numeral)

*(10) $2468 + 3579 + 1001 =$ _____

(11) CDLX + XCVI = _____ (Arabic Numeral)

(12) The LCM of 12, 24, and 18 is _____

(13) $33 \times 27 =$ _____

(14) The multiplicative inverse of 3^{-2} is _____

(15) $39 - 13 \div 4 \times 12 =$ _____

(16) $\frac{1}{3} + \frac{1}{6} + \frac{1}{9} =$ _____ (fraction)

(17) $13 \times 223 =$ _____

(18) $3 + 9 + 15 + 21 + \ldots + 33 =$ _____

(19) $83 \times 38 =$ _____

*(20) $1206 \times 2012 =$ _____

(21) $15 \times 25 \times 16 =$ _____

(22) $\left|2 - 3 - 4|5 - 6| + 7\right| =$ _____

(23) Find the area of a square whose diagonal is 8in. _ sq. inches

(24) $2^3 + 3^3 + 4^3 =$ _____

(25) The multiplicative inverse of $-1.111\ldots$ is _____

(26) If one dozen eggs cost \$2.40, then 2.5 dozen eggs cost \$ _____

(27) $2057 \div 17 =$ _____

(28) $.1555\ldots =$ _____ (proper fraction)

(29) If $2x + 3 = 5x - 9$, then $x =$ _____

*(30) $783209 \div 247 =$ _____

(31) The area of an equilateral triangle is $\sqrt{3}$ cm^2. The side of the triangle is _____ cm

(32) If $a = 5$ and $b = 3$, then $(a - b)(a^2 + ab + b^2) =$ _

(33) How many positive integral divisors does 144 have? _____

(34) If $\sqrt{5 - \sqrt{3 + \sqrt{x}}} = 1$, then $x =$ _____

(35) The set $\{m, i, n, u, t, e\}$ has ___ 3-element subsets

(36) How many subsets containing 3 elements does the set $\{p, o, l, a, r\}$ have? _____

(37) Let $x = 2y$, $y = 3z$, and $z = -1$. Find xyz. _____

(38) $12345 \times 8 + 5 =$ _____

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

*(40) $\sqrt{3122016} =$ _____

(41) The slope of line containing the points $(-2, 3)$ and $(4, -5)$ is _____

(42) Find the slope of a line perpendicular to the line containing the points $(2, 4)$ and $(-3, 6)$. _____

(43) If $3x - 1 > 14$ then $x >$ _____

(44) If $4^{2x} = 25$, then $4^{3x} =$ _____

(45) $\frac{3}{4}(15^2 - 9^2) =$ _____

(46) $A^3 \times A^k \div A^4 = A^5$. If $A > 1$, then $k =$ _____

(47) The x-intercept of the line $2x + 4y = 5$ is (h, k). Find h. _____

(48) $13 \times 15 + 1 =$ _____

(49) If $7^{2x} = 144$, then $7^{3x} =$ _____

*(50) $31^3 \div 8^3 \times 4 =$ _____

(51) $(4 - 7\mathrm{i})(4 + 7\mathrm{i}) = a + b\mathrm{i}$. Find $a + b$. _____

(52) 18% of $133\frac{1}{3}$ is _____

(53) Let $\frac{7!}{5!} = \frac{(x-1)!}{(x-2)!}$. Find x. _____

(54) $38^2 + (30 + 8)(30 - 8) =$ _____

(55) If ${}_4C_k = 6$, then $k =$ _____

(56) $48 + 24 + 12 + 6 + 3 + \ldots =$ _____

(57) The ninth term of 9, 14, 19, 24, ... is _____

(58) $300_6 \div 4_6 =$ _____ 6

(59) If $(4 + 3\mathrm{i}) \div (2\mathrm{i}) = a + b\mathrm{i}$, then $a =$ _____

*(60) $875 \times 888 \div 77 =$ _____

(61) 132 feet per second= _____ miles per hour

(62) $\log_2 [\log_3(\log_2 512)] =$ _____

(63) $\frac{5!}{2! + 3!} \equiv x (\mathrm{mod} 7)$, and $0 \leq x \leq 6$. $x =$ _____

(64) $(123_5 + 321_5) \div 4$ has a remainder of _____

(65) If $f(x) = 2x - 5$ and $g(x) = 4x + 3$, then $f(g(-1)) =$ _____

(66) The slope of the line perpendicular to the line $2x - 4y = 3$ _____

(67) If $\begin{bmatrix} 3 & 2 \\ 5 & 2 \end{bmatrix} + \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then $a + d =$ ___

(68) $(456_7 + 654_7) \div 6$ has a remainder of _____

(69) $1 - 2\sin^2 30° =$ _____

*(70) $5^1 + 4^2 + 3^3 + 2^4 + 1^5 =$ _____

(71) $\lim_{x \to -2} \frac{x^3 + 8}{x + 2} =$ _____

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

(73) The smallest value of x in the domain of $f(x)$ so that $f(x) = \sqrt{4x + 5}$ has a real valued range is ___

(74) $\int_0^1 \sqrt[3]{x}\, dx =$ _____

(75) Find the least value of k so that the six digit number $3467k2$ is divisible by 6. $k =$ _____

(76) Y varies directly with x and $y = 3$ when $x = 6$. Find y when $x = 22$. $y =$ _____

(77) If $f(x) = 2(x + 3)$, then $f^{-1}(-4) =$ _____

(78) $\int_1^3 (x + 5)\, dx =$ _____

(79) $(4, 60°)$ are polar coordinates for the (x, y) rectangular coordinates. $x =$ _____

*(80) 5300 inches/second = _____ miles/hour