Number Sense Exam 011, 2/3/2017

(1) $2005 \div 5 =$ _____

(2) $2006 \div 9 =$ _____ (mixed number)

(3) $2006 - 6002 =$ _____

(4) $3141 - 2718 + 1618 =$ _____

(5) Which is smaller: $\frac{11}{12}$ or $\frac{12}{13}$? _____

(6) $2090 \div 9 =$ _____ (mixed number)

(7) $22 \times 38 =$ _____

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

(9) $6.25\% =$ _____ (proper fraction)

*(10) $55 \times 555 - 5555 =$ _____

(11) $4\frac{2}{3}\% =$ _____ (fraction)

(12) $11 \times 11 \times 11 \times 11 =$ _____

(13) MMVIII − MIV = _____ (Arabic Numeral)

(14) The LCM of 4, 6, and 8 is _____

(15) The mean of 23, 27, 35, and 31 is _____

(16) $\frac{1}{3} - \frac{1}{9} - \frac{1}{18} =$ _____ (proper fraction)

(17) 32 is 80% of what? _____

(18) $44 \times 46 =$ _____

(19) $4\frac{5}{6} + 10\frac{11}{12} =$ _____ (mixed number)

*(20) $\sqrt{272727} =$ _____

(21) $91 \times 55 =$ _____

(22) 80 has _____ positive prime divisors

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

(24) Which of the following is an abundant number: 14, 28, or 42? _____

(25) $3367 \times 26 =$ _____

(26) $11 \times 24 \times 25 =$ _____

(27) $7.777\ldots - 3.333\ldots =$ _____

(28) $|-1| - |-2| + |3| =$ _____

(29) 115% of 15 is _____

*(30) $27^2 \div 9^2 \times 18^2 =$ _____

(31) The 5th hexagonal number is _____

(32) If $x < 0$ and x is to 2 as 8 is to x, then $x =$ _____

(33) $15 \times 5! + 25 \times 4! =$ _____

(34) $\sqrt{98 \times 8} =$ _____

(35) The roots of a cubic equation are 1, 2, and 3. The equation is $x^3 - 6x^2 + 11x =$ _____

(36) $(2 \times 3^4 + 5^6) \div 7$ has a remainder of _____

(37) Circle O has a diameter of $7''$ and circle P has a diameter of $5''$. The ratio of O's circumference to P's circumference is _____

(38) Find k if $67^2 - 59^2 = 16 \times k$. $k =$ _____

(39) If $P = -3$, $Q = -2$, and $R = -1$, then $P - Q - R =$ _____

*(40) $\sqrt[3]{1730} \times \sqrt{223} \times 18 =$ _____

(41) The y-intercept of the line $6x - 8y = 10$ is (h, k). Find k. _____

(42) If ..., 4.5, 1.5, x, y, ... is a geometric sequence, then the value of y is _____

(43) The hypotenuse of a right triangle with integral sides is 41 in. The shortest leg is _____ in

(44) $13 \times 55 + 11 \times 65 =$ _____

(45) $78\frac{4}{7}\% =$ _____ (proper fraction)

(46) $14443 \times 29 =$ _____

(47) $7 \times 5! - 6!$ _____

(48) The slope of the line $5 - 3x = 7y$ is _____

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

*(50) $142.857 \times 78 =$ _____

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

(52) The integral sides of a triangle are 7, 2, and x. The least value of x is _____

(53) $(4 - \mathrm{i})(3 + 2\mathrm{i}) = a + b\mathrm{i}$. Find a. _____

(54) If y varies inversely with x and $y = 3$ when $x = 2$, find x when $y = 4$._____

(55) $\sin\left(-\frac{\pi}{3}\right) \times \sin\left(\frac{\pi}{3}\right) =$ _____

(56) $5^5 \times 2^2 =$ _____

(57) $49 \times 41 - 9 =$ _____

(58) A convex polygon has 14 distinct diagonals. How many sides does it have? _____

(59) ${}_{11}\mathrm{C}_9 =$ _____

*(60) $714.2857 \times 246 =$ _____

(61) $\tan\left(\frac{\pi}{3}\right) =$ _____

(62) If $\sqrt{4 + \sqrt{5 + \sqrt{x - 1}}} = 3$, then $x =$ _____

(63) $\sin\left[\sin^{-1}\left(\frac{1}{2}\right)\right]$ _____

(64) $\begin{bmatrix} 2 & -3 \end{bmatrix} \times \begin{bmatrix} 3 \\ -2 \end{bmatrix} = [$ _____ $]$

(65) $24_7 \div 6_7 + 24_7 =$ _____ $_7$

(66) $\sin(\arccos .6) =$ _____ (decimal)

(67) The set $\{a, b, c, d\}$ has _____ 2-element subsets

(68) If $\log_x 3 = .5$ then $x =$ _____

(69) The slope of the line $3x + 4y - 5 = 0$ is _____

*(70) $13 \times 14 \times 15 \times 16 =$ _____

(71) If $\tan(A) = 1$ then $\sec^2(A) =$ _____

(72) The amplitude of $y = 2 - 3\cos 4(x + 5)$ is _____

(73) $\frac{1}{6} + \frac{1}{10} + \frac{1}{15} + \frac{1}{21} =$ _____

(74) $\lim_{x \to 4} \frac{x^3 - 64}{x - 4} =$ _____

(75) $\frac{1}{2} \times \frac{2}{3} \times \frac{4}{5} \times \frac{6}{7} =$ _____

(76) $1(1!) + 2(2!) + 3(3!) + 4(4!) =$ _____

(77) $\int_0^4 (4 - x)\, dx =$ _____

(78) $(4, \frac{\pi}{3})$ are polar coordinates for (x, y). $x =$ _____

(79) $(3^3 - 2^3 + 1^3) \times 5^3 =$ _____

*(80) $888 \times 87.5\% \div \frac{7}{11} =$ _____