Number Sense Exam 027, 5/18/2017

(1) $3443 \div 9$ has a remainder of _____

(2) $200 \div 7 =$ _____ (mixed number)

(3) $\dfrac{9}{250} =$ _____ % (decimal)

(4) $12\dfrac{1}{2}\% =$ _____ (fraction)

(5) $23 \times 23 =$ _____

(6) $\dfrac{4}{5}\% =$ _____ (decimal)

(7) $72 \div 4 + 6 \times 5 - 1 =$ _____

(8) $719 + 917 =$ _____

(9) $11 \times 139 =$ _____

*(10) $16 + 166 + 1666 + 16666 =$ _____

(11) $27 \times 14 - 13 \times 14 =$ _____

(12) 3 miles = _____ yards

(13) $\dfrac{1}{36} - \dfrac{1}{18} - \dfrac{1}{6} =$ _____ (proper fraction)

(14) $7 + 16 \div 5 \times 10 =$ _____

(15) MMCCIV = _____ (Arabic Numeral)

(16) The mean of $18, 22, 36,$ and 44 is _____

(17) The average of $18, 29,$ and 16 is _____

(18) 1 gallon $-$ 1 quart $-$ 1 cup = _____ ounces

(19) Which is smaller, $-\dfrac{2}{7}$ or $-\dfrac{3}{8}$? _____

*(20) $7532 \times 1468 =$ _____

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

(22) $60_{10} =$ _____ $_4$

(23) $0.444\ldots + 0.888\ldots =$ _____

(24) The number of elements in the Cartesian product of $\{1, 2, 3, 4\}$ and $\{2, 3, 4\}$ is _____

(25) $8^7 \div 9$ has a remainder of _____

(26) The number halfway between -12 and 62 on the number line is _____

(27) If $3^x + 3 = 30$, then $x =$ _____

(28) $223355k$ is divisible by 9. Find k. _____

(29) $41 \times 49 =$ _____

*(30) $18 \times 54 + 27 \times 36 =$ _____

(31) $12.5 \times 480 =$ _____

(32) 42% of _____ is 84% of 26.

(33) If $12x^4 - 9x^3 - 2x^2 + 13x + 6 = 0$, then the product of the roots is _____

(34) $22422 \div 101 =$ _____

(35) If $x = 2$ and $y = 2$, then $9x^2 - 12xy + 4y^2 =$ ____

(36) The area of an isosceles right triangle with hypotenuse $12\sqrt{2}$ is _____ sq. units

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

(38) $5! - (4! + 3!) =$ _____

(39) The sum of the roots of $2x^2 - 5x = 3$ is _____

*(40) $201213 \div 748 =$ _____

(41) If $(28)(16) = 14y$, then $y =$ _____

(42) $707^2 =$ _____

(43) If a triangle has sides of $6, 8,$ and x then $x <$ ____

(44) The area of the base of a cube is 49 sq. cm. the volume of the cube is _____ cu. cm.

(45) If $3^x = 70.1$, then $3^{(x+2)} =$ _____

(46) $(123 \times 9 + 4) + (1234 \times 8 + 4) =$ _____

(47) If $16^x = 169$, then $4^x =$ _____

(48) The next term of $1, 5, 13, 25, 41, \ldots$ is _____

(49) $\dfrac{3}{4} - \dfrac{10}{13} =$ _____

*(50) $29 \times 302 + 30 \times 299 =$ _____

(51) The smaller root of $7x^2 + 15x + 2 = 0$ is _____

(52) The line containing the points $(4, 7)$ and $(3, 6)$ has a y-intercepts of (x, y). $y =$ _____

(53) The sum of the coefficients of the expansion of $(4x - y)^3$ is _____

(54) 45 degrees $= \dfrac{\pi}{k}$ radians. Find k. _____

(55) The coefficient of the $x^2 y$ term when $(2x + y)^3$ is expanded is _____

(56) $35_6 \times 4_6 =$ _____ $_6$

(57) $\dfrac{3}{4} + \dfrac{1}{2} + \dfrac{1}{3} + \ldots =$ _____

(58) $(1 + 2i)(3 + 4i) = a + bi$. Find b. _____

(59) Find the simplified coefficient of the third term in the expansion of $(x + 2y)^5$. _____

*(60) $15 \times 16 \times 17 =$ _____

(61) $83^2 =$ _____

(62) If $x \neq 2$ and $_7C_2 = {_7}C_x$, then $x =$ _____

(63) If $\sin \theta = \dfrac{5}{13}$ and $\cos \theta = \dfrac{12}{13}$, $0° \leq \theta \leq 90°$, then $\tan \theta =$ _____

(64) $1^2 - 2^2 + 3^2 - 4^2 + 5^2 - 6^2 + 7^2 =$ _____

(65) Assuming no ties and all teams are equally good, what is the probability a team will win 8 out of 9 games? _____

(66) The slope of the line $\dfrac{2}{7}x - \dfrac{1}{3}y = \dfrac{4}{5}$ is _____

(67) The area of the ellipse $4x^2 + 9y^2 = 36$ is $k\pi$ and $k =$ _____

(68) If $\sqrt{12} + \sqrt{27} = \sqrt{x}$ then $x =$ _____

(69) The volume of a right circular cylinder 11 cm high with a diameter of 22 cm is _____ π cm^2

*(70) $(e + \pi^2)^2 =$ _____

(71) How many regions in a plane are determined by 10 lines, no 2 parallel and no 3 concurrent? _____

(72) The vertical asymptote of $y = \log_3 x$ is $x =$ _____

(73) $6^8 \div 8$ has a remainder of _____

(74) Change $\dfrac{9}{16}$ to a base 4 decimal. _____ base 4

(75) $\displaystyle\int_1^3 (2x + 3)\, dx =$ _____

(76) The distance between the line $3x - 4y = 6$ and the point $(5, 1)$ is _____

(77) If $f(x) = 3x + 5$, then $f^{-1}(3) =$ _____

(78) If $f(x) - \dfrac{2x - 3}{4}$, then $f^{-1}(3) =$ _____

(79) Change 0.65_7 to a base-10 fraction. _____

*(80) $428571 \times 22 =$ _____