Number Sense Exam 053, 12/15/2017

(1) $28^2 =$ _____

(2) $34^2 =$ _____

(3) $28\% =$ _____ (proper fraction)

(4) $28 \div 11 + 82 \div 11 =$ _____

(5) $2.09 + 80.02 =$ _____

(6) $3\frac{5}{6} = 2\frac{1}{4} =$ _____ (mixed number)

(7) $\frac{3}{8} + 25\% =$ _____ (decimal)

(8) $1 + 2 \times 3 - 4 \div 5 =$ _____

(9) $19 \times 17 + 11 \times 17 =$ _____

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

(11) The LCM of $14, 25$, and 35 is _____

(12) $\frac{5}{6} + \frac{6}{5} =$ _____ (mixed number)

(13) $15 \times \frac{15}{17} =$ _____ (mixed number)

(14) $8 + 15 - 22 - 29 + 36 + 43 =$ _____

(15) $\text{LCM}(35, 55) \times \text{GCD}(35, 55) =$ _____

(16) $18 \times 18 \times 18 =$ _____

(17) The mode of 2, 8, 4, 8, 2, 4, 8, 4, and 8 is _____

(18) $1211 \div 9 =$ _____ (mixed number)

(19) The LCM of $20, 28$, and 35 is _____

*(20) $987 - 654 \times 321 =$ _____

(21) $21^2 + 7^2 =$ _____

(22) $75 \times 124 =$ _____

(23) If $\frac{3}{4} = \frac{3x}{5}$, then $x =$ _____

(24) The product of x and 6 gives the same result as the sum of x and 10. Find x. _____

(25) $2.151515\ldots =$ _____ (improper fraction)

(26) $0.120120120\ldots =$ _____ (proper fraction)

(27) $12^2 + 36^2 =$ _____

(28) 37.5% of a gallon is _____ pints

(29) $1.1222\ldots =$ _____ (improper fraction)

*(30) $103689 \div 281 =$ _____

(31) If $\sqrt{125} - \sqrt{45} = \sqrt{x}$, then $x =$ _____

(32) If $x > 0$ and $2x^2 = \sqrt{4x^3}$ then $x =$ _____

(33) Find the slope of the line parallel to the line $4x + 7y = 3$. _____

(34) If $4x - 9 = 7 - 2x$, then $x =$ _____

(35) $53 \times 47 =$ _____

(36) If $A = 3$, $B = -4$, and $C = 5$, then $B - AC =$ __

(37) $15^2 + 45^2 =$ _____

(38) $3|2x + 4| = 24$. Find x such that $x < 0$. _____

(39) 48% of _____ is 16% of 24

*(40) $545 \times 449 =$ _____

(41) $66 \div 0.1666\ldots =$ _____

(42) $555 \times \frac{4}{37} =$ _____

(43) The y-intercept of the line $2x - 3y = 4$ is (h, k). Find k. _____

(44) The x-intercept of the line $3x - 2y = 1$ is (h, k). Find h. _____

(45) $\frac{3}{4} - \frac{8}{13} =$ _____

(46) $111 \times 369 =$ _____

(47) $\ldots, -\frac{3}{8}, \frac{1}{4}, -\frac{1}{6}, x, -\frac{2}{27}, \ldots$ is a geometric sequence. The value of x is _____

(48) The product of the coefficients of the terms in the expansion of $(x+y)^5$ is _____

(49) $\frac{6}{7} - \frac{11}{15} =$ _____

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

(51) If $\frac{3x}{5}$ has a remainder of 4 and $\frac{3y}{5}$ has a remainder of 1 then $\frac{xy}{5}$ has a remainder of _____

(52) $18^2 - 17^2 + 16^2 - 15^2 =$ _____

(53) $\frac{(x^2+6x+9)}{(x+3)} \times \frac{(x^2-6x+9)}{(x^2-9)} = x -$ _____

(54) $(3+4\mathrm{i})^2 = a + b\mathrm{i}$. Find $a+b$. _____

(55) ${}_5\mathrm{P}_3 \times {}_5\mathrm{C}_3 =$ _____

(56) $61 \times 69 + 16 =$ _____

(57) How many lines in a plane are determined by 6 points, no 3 of which are collinear? _____

(58) $222 \times \frac{5}{37} =$ _____

(59) The area of the circle $x^2 + y^2 + 2x + 4y = 11$ is $k\pi$ sq. units. Find k. _____

*(60) $\left(\frac{\sqrt{5}+1}{2}\right)^2 (e)^2(\pi)^2 =$ _____

(61) If the initial point of a vector is $(2,3)$ and the terminal point is $(4,5)$, then $||v||^2 =$ _____

(62) 480 miles per hour _____ feet per second

(63) $\left(\tan\frac{5\pi}{6}\right)^2 =$ _____

(64) The radius of hte circumscribed circle around a $5, 12, 13$-right triangle is _____

(65) $\cos^2 30^\circ + \sin^2 30^\circ =$ _____

(66) $\tan[\cot^{-1}(2.1)] =$ _____

(67) $107 \times 106 =$ _____

(68) $\sin(\arctan\left(\frac{7}{24}\right)) =$ _____

(69) Let $f(x) = x^2 - 5$ and $g(x) = 3x + 2$, then $g[f(-1)] =$ _____

*(70) $645731 \div 1111 =$ _____

(71) A pair of dice is thrown. The odds that the sum is 7 is _____

(72) If $f(x) = 3x^2 - 2x + 1$, then $f'(-4) =$ _____

(73) $13^5 \div 15$ has a remainder of _____

(74) A number is randomly drawn form the set {1, 2, 3, 4, 5}. What is the probability that the number drawn is a prime number? _____ %

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

(76) The total surface area of a cube with a lateral surface area of $196\mathrm{cm}^2$ is _____ cm^2

(77) If $f(x) = 2x - 1$, then $f^{-1}(8) =$ _____

(78) $\lim_{x\to 4} \frac{x^2-1}{x+1} =$ _____

(79) Find $x, 0 \le x \le 3$ if $24^2 \equiv x \pmod 5$. _____

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