Number Sense Exam 065, 4/7/2018

(1) $\dfrac{13}{400}$ = _____ % (decimal)

(2) $242 \div 9 =$ _____

(3) $1357 \times 5 =$ _____

(4) $\dfrac{3}{5} =$ _____ %

(5) $56 \div 4 + 3 \times 5 + 1 =$ _____

(6) $19^2 =$ _____

(7) $4.5 \times 8.5 =$ _____ (decimal)

(8) $65 \times .34 =$ _____

(9) $1 + 3 + 6 + 10 + 15 =$ _____

*(10) $94 \times 85 - 76 =$ _____

(11) $(34 + 65 + 96) \div 3$ has a remainder of _____

(12) $\dfrac{3}{7} - \dfrac{3}{14} - \dfrac{3}{21} =$ _____

(13) $48 \times 24 - 48 \times 12 =$ _____

(14) $27^2 =$ _____

(15) The median of $12, 20, 8, 14, 22,$ and 12 is _____

(16) The mean of $2, 8, 4, 8, 2, 4, 8, 4,$ and 8 is _____

(17) 24% of 24 is _____ (decimal)

(18) 34 is 85% of what? _____

(19) The sum of the proper divisors of 76 is _____

*(20) $(60 \div 3 \div 2 \times 3)^2 =$ _____

(21) $45 \times 65 =$ _____

(22) The GCD of $28, 42,$ and 70 is _____

(23) The sum of the GCD and LCM of 19 and 30 is _____

(24) $2\dfrac{1}{4} + 1\dfrac{2}{3} =$ _____ (mixed number)

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

(26) $7^3 =$ _____

(27) $\left(8\dfrac{3}{4}\right)^2 =$ _____ (mixed number)

(28) $65 \times 75 =$ _____

(29) $(23 + 12 \times 18) \div 8$ has a remainder of _____

*(30) $2345678 \div 911 =$ _____

(31) The sum of the roots of $2x^2 - 3x + 1 = 0$ is _____

(32) $3 \times 2! + 4 \times 3! + 5 \times 4! =$ _____

(33) $12\dfrac{12}{49} \div 3\dfrac{3}{7} =$ _____ (mixed number)

(34) $\dfrac{17}{14} =$ _____ % (mixed number)

(35) Set P has 63 proper subsets. How many elements are in set P? _____

(36) $44 \times \dfrac{47}{50} =$ _____

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

(38) The diagonals of a rhombus are $2\sqrt{3}$ and $4\sqrt{3}$. The area of the rhombus is _____

(39) Picture A is $8''$ by $10''$ and B is $9''$ by $12''$. The ratio of A's perimeter to B's perimeter is _____

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

(41) If 104 is divided into three parts proportional to $2, 4,$ and 7, then the largest part is _____

(42) 45 miles per hour = _____ feet per second

(43) If $A^4 \div A^7 \times A^k = A^5$, and $A > 1$, then $k =$ _____

(44) $11 \times \dfrac{13}{15} =$ _____ (mixed number)

(45) If $3^{(x-1)} = 13.1$, then $3^{(x+1)} =$ _____

(46) $\sqrt{75} \times \sqrt{27} =$ _____

(47) 12% of $466\frac{2}{3} =$ _____

(48) The sum of the roots of $x^2 - 6x + 9 = 0$ is _____

(49) $\frac{1}{4}(64^2 - 36^2) =$ _____

*(50) $3\pi^2 \times (2.1)(\pi^4) =$ _____

(51) If the odds of losing the game is 35%, then the probability of winning the game is _____

(52) 750 pounds is _____ % of a ton.

(53) $\frac{2}{3} + \frac{1}{2} + \frac{3}{8} + \ldots =$ _____

(54) $80° = k\pi$ radians. $k =$ _____

(55) $7 + 3.5 + 1.75 + .875 + \ldots =$ _____

(56) Let $\frac{8!}{7!} = \frac{x!}{(x+1)!}$. Find x. _____

(57) How many groups of 4 people can be made using 6 people? _____

(58) $(\log_4 64) \div (\log_4 16) =$ _____

(59) Find the slope of the line parallel to the line $2x = 4 - \frac{2}{5}y$. _____

*(60) $67 \times 71 \times 73 =$ _____

(61) $6 + 2 + \frac{2}{3} + \ldots =$ _____

(62) If $f(x) = 2x + 3$ and $g(x) = x^2$, then $g[f(-4)] =$ _____

(63) If $\sin\theta = .4$ and $\cos\theta = .9$, then $\tan\theta =$ _____

(64) 480 miles per hour _____ feet per second

(65) $\sqrt{12544} =$ _____

(66) $(\cos 225°)(\sin 315°) =$ _____

(67) $\sqrt{-16} \times \sqrt{-9} =$ _____

(68) $(3 + 4i)(-4 + 2i) = a + bi$ and $a =$ _____

(69) $g(x) = x^2 + 1$ and $h(x) = 1 - x^2$, then $g(h(2)) =$ _____

*(70) $\sqrt{1025} \times \sqrt{730} =$ _____

(71) $57289 \div 11$ has a remainder of _____

(72) Change .22 base 4 to a base ten decimal. _____

(73) $3^3 - 4^3 - 5^3 =$ _____

(74) $\sin^{-1}(.6) + \sin^{-1}(.8) =$ _____ (degrees)

(75) Change $.33_5$ to a base 10 fraction. _____

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

(77) Find k, $0 \le k \le 6$, if $(6!)(3!) \equiv k \pmod 7$. _____

(78) $\frac{1}{3} + \frac{1}{5} + \frac{1}{15} + \frac{1}{45} =$ _____

(79) $15^2 - 14^2 + 13^2 - 12^2 + 11^2 =$ _____

*(80) 3210 miles/hour $=$ _____ feet/second