Number Sense Exam 025, 5/4/2017

(1) $2016 \div 8 =$ _____

(2) $2013 - 201 + 13 =$ _____

(3) $132 \div 25 =$ _____ (decimal)

(4) $3\frac{3}{8}\% =$ _____ (decimal)

(5) $2090 \div 9 =$ _____ (mixed number)

(6) MD + DC = _____ (Arabic numeral)

(7) $1\frac{2}{3} + 1\frac{1}{4} =$ _____ (mixed number)

(8) $18^2 =$ _____

(9) $34^2 =$ _____

*(10) $374 - 1056 + 1916 =$ _____

(11) 40% of 42 less 38 is _____

(12) What is $2\frac{1}{4}\%$ of 28? _____

(13) How many positive integers less than 49 are relatively prime to 49? _____

(14) $18 - 12 \div 4 \times 3 + 2 =$ _____

(15) The mode of 1, 2, 1, 3, 2, 1, and 3 is _____

(16) The GCD of 96 and 56 is _____

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

(18) $8\frac{1}{3}\% + 16\frac{2}{3}\% =$ _____ (fraction)

(19) $.076 =$ _____ (fraction)

*(20) $8 \times 15 \times 1947 =$ _____

(21) 26% of _____ is 12% of 39.

(22) Which of the following is a triangular number: 9, 15, or 18? _____

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

(24) If $f(x) = x^2 - 10x + 25$, then $f(37) =$ _____

(25) If $5^{(-1)} + x^{(-1)} = 4^{(-1)}$, then $x =$ _____

(26) $3212015 \div 11$ has a remainder of _____

(27) The set $\{s, i, x\}$ has _____ proper subsets

(28) $1 + 4 + 7 + 10 + \ldots + 31 =$ _____

(29) $51 \times 59 =$ _____

*(30) $\sqrt{870} \times 295 =$ _____

(31) $0.2333\ldots =$ _____ (fraction)

(32) $1073 \div 37 =$ _____

(33) A square has a diagonal of $4\sqrt{2}$ cm. The perimeter of the square is _____ cm.

(34) A 6-element set has _____ proper subsets

(35) $54^2 - 55^2 =$ _____

(36) $2 + 4 \times 6 - 8 \div 10 =$ _____

(37) $96 \times 103 =$ _____

(38) $82 \times 22 =$ _____

(39) $42^2 - 44^2 =$ _____

*(40) $\sqrt{30976} =$ _____

(41) If $x + 4y = 5$ and $x - 3y = 4$ then $y =$ _____

(42) $48 \times 11 + 44 \times 12 =$ _____

(43) The arithmetic mean of 17, 22, and 25 is _____

(44) A square is to a hexagon as an octagon is to a polygon of _____ sides.

(45) $(34)^2 - (21)(55) =$ _____

(46) $5! + 3! =$ _____

(47) $112 \times 104 =$ _____

(48) $40°\text{C} =$ _____ $°\text{F}$

(49) $\ldots, -1\frac{1}{3}. -\frac{2}{3}, x, y, \ldots$ is an arithmetic sequence.
Find the value of y. _____

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

(51) $(5 - 7\text{i})(5 + 7\text{i}) = a + b\text{i}$. Find $a + b$ _____

(52) $\cot(-225°) =$ _____

(53) Point (h, k) is the vertex of the parabola $y = -2(x + 1)^2 - 8$. Find $h + k$. _____

(54) $\log_4 32 + \log_4 2 + \log_4 1 =$ _____

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

(56) How many 2-member committees can be formed from a group of 7 people? _____

(57) $(2\text{i})^6 =$ _____

(58) $(4 - \text{i})(3 + 2\text{i}) = a + b\text{i}$. Find a. _____

(59) The total surface area of a cube with an edge of $4''$ is _____ sq. inches

*(60) $48 \times 49 \times 50 =$ _____

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

(62) A square based prism has a base side length of $2'$ and a height $5'$. Its volume is _____ cu. ft

(63) $\frac{15}{13} + \frac{13}{15} - 1 =$ _____ (mixed number)

(64) $\sin(75°)\cos(75°) =$ _____

(65) How many 3-element subsets does a 5-element set contain? _____

(66) If $\sin A = .7$, then $\csc A =$ _____

(67) Find $f(5)$ if $f(x) = \log_5 x + 5$. _____

(68) Change $0.3444\ldots_7$ to a base 10 fraction. _____

(69) $\sin\left(\frac{7\pi}{6}\right) + \cos^2\left(\frac{11\pi}{6}\right) + \tan\left(\frac{9\pi}{4}\right) =$ _____

*(70) The surface area of a sphere with a diameter of 9 inches is _____ sq. inches

(71) $2(1!) + 3(2!) + 4(3!) + 5(4!) + 6(5!) =$ _____

(72) If $f(x) = 3x^4 - 5x + 6$, then $f'(1) =$ _____

(73) The horizontal asymptote of $y = \frac{(2x - 1)}{(3x + 2)(2x + 6)}$ is $y =$ _____

(74) $\lim\limits_{x \to 3}\left(\frac{x^2 + x - 1}{x - 3}\right) =$ _____

(75) If the polar coordinates of the rectangular coordinates $(11, 60)$ are (r, θ), $r =$ _____

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

(77) The slope of the line tangent to $y = 3x^2 - x + 2$ at $(1, 4)$ is _____

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

(79) The graph of $f(x) = \frac{(x^2 - 5x + 6)}{(x^2 - 4)}$ has a hole at $x =$ _____

*(80) $888.8 \div 55\frac{5}{9}\% \times \frac{2}{9} =$ _____