Number Sense Exam 066, 4/16/2018

(1) $2\frac{5}{8} =$ _____ % (decimal)

(2) $\frac{19}{40} =$ _____ % (decimal)

(3) $11 \times 252 =$ _____

(4) $2.09 + 80.02 =$ _____

(5) $(24 + 18) \div 12 \times (3 - 6) =$ _____

(6) $77 \div 25 + 123 \div 25 =$ _____

(7) $158 \div 5 =$ _____ (mixed number)

(8) $15 \times 28 =$ _____

(9) The GCD of 68 and 85 is _____

*(10) $115 + 2013 - 511 + 3102 =$ _____

(11) $3\frac{4}{5} - 8\frac{9}{10} =$ _____ (mixed number)

(12) $15^2 =$ _____

(13) 2 rods is equivalent to _____ feet

(14) $37 \times 33 =$ _____

(15) $1 + 3 + 5 + 7 + \ldots + 43 =$ _____

(16) $1\frac{1}{4}\% =$ _____ (fraction)

(17) $25 \times 46 =$ _____

(18) $28 \times 22 =$ _____

(19) $15 \times 28 =$ _____

*(20) $64665 \div 298 =$ _____

(21) $(15 \times 30 - 45) \div 7$ has a remainder of _____

(22) $|-5 - |-3| - 7| =$ _____

(23) Set A has 4 elements, set B has 7 elements, and $A \cap B$ has 3 elements, then $A \cup B$ has ___ elements

(24) If 4 pens cost \$8.88, then 10 pens cost \$ _____

(25) $73 \times \frac{73}{75} =$ _____ (mixed number)

(26) $4\frac{2}{3} \times 6\frac{1}{2} =$ _____ (mixed number)

(27) 32 ounces = _____ pints

(28) 75% of a gallon is _____ pints

(29) $4^5 \div 11$ has a remainder of _____

*(30) $16899 \div 129 =$ _____

(31) If 8 pens cost \$12.20, then 4 dozen pens cost \$ ___

(32) If $f(x) = x^2 - 2x - 3$, then $f(3) =$ _____

(33) $|6 - |-3 - 6|| =$ _____

(34) The circumference of circle O is 3π inches. The area of circle O is $k\pi$ square inches. $k =$ _____

(35) Rectangle A is $8''$ by $10''$ and rectangle B is $5''$ by $6''$. the ratio of B's area to A's area is _____

(36) $\sqrt[3]{1061208} =$ _____

(37) The number of positive integral divisors of 404 is

(38) The product of the roots of $(2x - 3)(x + 4) = 0$ is _____

(39) $102 \times 94 =$ _____

*(40) $29 \times 127 + 31 \times 213 =$ _____

(41) If A is 10% more than B and B is 10% less than C, then A is what % less than C? _____ %

(42) $131 \times 212 =$ _____

(43) Find k, so that $k24$ is the smallest positive 3-digit number divisible by 6. _____

(44) 57 base 8 = _____ base 2

(45) If A is 20% more than B and B is 10% less than C, then A is _____ % more than C.

(46) A triangle has integral sides. If the sides are $12, 8,$ and x, then the smallest value for x is _____

(47) The next term of $1, 2, 6, 24, 120, \ldots$ is _____

(48) The measure of each of the interior angles of a regular decagon is _____ degrees

(49) If the smallest leg of a right triangle is 11, then the hypotenuse is _____

*(50) $\sqrt[3]{6860} \times \sqrt{288} \times 15 =$ _____

(51) The 18th term of $3, 8, 13, 18, \ldots$ is _____

(52) $202 \times 34 =$ _____

(53) If $44_b = 40$, then $b =$ _____

(54) $15^2 - 14^2 + 13^2 - 12^2 =$ _____

(55) 45 degrees $= \dfrac{\pi}{k}$ radians. Find k. _____

(56) $38^2 + (30+8)(30-8) =$ _____

(57) ${}_6\mathrm{P}_4 \div {}_6\mathrm{C}_4 =$ _____

(58) $24_5 \times 4_5 =$ _____ $_5$

(59) ${}_5\mathrm{P}_3 \div {}_5\mathrm{C}_2 =$ _____

*(60) $42 \times 43 + 45 \times 44 =$ _____

(61) $14^2 - 12^2 + 10^2 - 8^2 =$ _____

(62) 3.25% of 24 is _____

(63) $555 \times \dfrac{6}{37} =$ _____

(64) If $\begin{bmatrix} 1 & 3 \\ 1 & 2 \end{bmatrix} + \begin{bmatrix} 2 & 2 \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then $c + d =$ ___

(65) $1 - 2\sin^2 30° =$ _____

(66) M varies inversely with N^2 and $M = 3$ when $N = 5$. If $N = 10$ then $M =$ _____

(67) $13 \times \dfrac{13}{14} + 13 =$ _____ (mixed number)

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

(69) $89 \times 93 =$ _____

*(70) $31.4 \times 27.2 \times 16.2 =$ _____

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

(72) The radius of the inscribed circle of a $6, 8, 10$ right triangle is _____

(73) If $f(x) = \dfrac{x^2 - x - 6}{x + 2}$, then the vertical asymptote is $x =$ _____

(74) The graph of $f(x) = 2^{(x-2)}$ has a horizontal asymptote at $y =$ _____

(75) If T_n is the nth triangular number, then $T_8 - T_7 =$ _____

(76) If $\sin A = \cos A, 180° \leq A \leq 270°$, then $A =$ ° _____

(77) $\dfrac{1}{3} + \dfrac{1}{6} + \dfrac{1}{10} + \dfrac{1}{15} =$ _____

(78) $g(x) = x^4 - 3x^2 + 5x - 7$. $g'(1) =$ _____

(79) $7 \times 11 \times 13 \times 17 =$ _____

*(80) The compound interest on \$3000 for 2 years at 6% compounded annually is _____ dollars (integer)