Number Sense Exam 063, 3/26/2018

(1) $15 \times 28 =$ _____

(2) $3\frac{3}{4}\% =$ _____ (fraction)

(3) $112 - 358 =$ _____

(4) $75 \times 75 =$ _____

(5) $3621 \div 9 =$ _____ (mixed number)

(6) $24 \times 26 =$ _____

(7) $245 + 146 - 135 =$ _____

(8) $\frac{5}{12} =$ _____ % (mixed number)

(9) $\frac{3}{4} \times \frac{8}{9} \times \frac{2}{3} =$ _____

*(10) $488 + 211 - 135 + 79 =$ _____

(11) CMLXIV = _____ (Arabic Numeral)

(12) $21 \times 13 =$ _____

(13) 1.5 gallons + 20 pints = _____ quarts

(14) 22 is what % less than 88? _____ %

(15) The LCM of 54 and 48 is _____

(16) $12 \times 17 =$ _____

(17) The largest prime factor of 285 is _____

(18) $32 \times 17 + 15 \times 32 =$ _____

(19) 32 is _____ % of 80

*(20) $\sqrt{8679} =$ _____

(21) $\sqrt[3]{1728} =$ _____

(22) $3367 \times 19 =$ _____

(23) $33.67 \times 15 =$ _____ (decimal)

(24) 4 pints is what percent of a gallon? _____ %

(25) 40 base 5 is equivalent to _____ base 8

(26) $.2353535\ldots =$ _____ (proper fraction)

(27) Find the simple interest on \$500.00 at 5% for five years. \$ _____

(28) Truncate $\sqrt{8}$ to the tenths place. _____

(29) $74^2 - 73^2 =$ _____

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

(31) $11\frac{7}{9} \times 11\frac{2}{9} =$ _____ (mixed number)

(32) The set $\{d, e, c, i, m, a, l\}$ has _____ subsets

(33) $5\frac{1}{5} \times 15\frac{1}{5} =$ _____

(34) $25\frac{2}{5} \times 5\frac{2}{5} =$ _____

(35) $5\frac{2}{3} \times 5\frac{1}{3} =$ _____ (mixed number)

(36) $3\frac{2}{5} - 2\frac{2}{3} =$ _____

(37) If $f(x) = x^2 - 6x + 9$, then $f(5.2) =$ _____

(38) The perimeter of a square is 18 inches. The area of this square is _____ sq. inches

(39) The product of the roots of $2x^2 - x + 7 = 0$ is ___

*(40) $43678 \div 111 =$ _____

(41) $48 \times 11 + 44 \times 12 =$ _____

(42) $505^2 =$ _____

(43) If $3x^3 - 4x^2 + 5x + 2 = 0$, then product of its roots is _____

(44) $2^3 \times 4^3 \times 5^3 =$ _____

(45) $7 \times \frac{7}{10} =$ _____ (mixed number)

(46) If $3x - 4 = 8$, then $3x + 1 =$ _____

(47) $12^3 \div 6^3 \times 3^3 =$ _____

(48) $x - y = -1$ and $xy = 2$, then $x^3 - y^3 =$ _____

(49) $40_5 - 12_5 - 11_5 =$ _____ $_5$

*(50) $18^3 \times 15^3 \div 9^3 =$ _____

(51) If $\frac{1}{8} + \frac{1}{x} = \frac{1}{2}$, then $x =$ _____

(52) $(3\text{i} - 2) \div (3\text{i} + 2) = a + b\text{i}$. $b =$ _____

(53) The simplified coefficient of the x^2y^2 term in the expansion of $(2x - y)^4$ is _____

(54) Find the smallest positive integral value for k such that $374k$ is divisible by 6. _____

(55) ${}_5\text{P}_3 + {}_5\text{P}_2 =$ _____

(56) If y varies directly with x^2 and $y = 8$ when $x = 2$, find y when $x = 5$. _____

(57) $(2 + 7\text{i})(2 - 7\text{i}) = a + b\text{i}$. Find $a + b$. _____

(58) The coefficient of the 5th term of the expansion of $(x - y)^5$ is _____

(59) If $4002_{b+1} = 502$, then $b - 1 =$ _____

*(60) $9^3 \div 18^2 \times 125 =$ _____

(61) 68 is 4.25% of _____

(62) The volume of a right circular cylinder $3''$ high with a radius of $1''$ is $k\pi$ cu. in. $k =$ _____

(63) If P is $\frac{3}{4}$ of Q and Q is $\frac{2}{3}$ of R then R is what percent of P? _____%

(64) $\tan(\tan^{-1}.6) =$ _____ (fraction)

(65) If $x \neq 2$ and ${}_7\text{C}_2 = {}_7\text{C}_x$, then $x =$ _____

(66) $\log_6 3 + \log_6 12 - \log_6 6 =$ _____

(67) $(10 + 9)^2 + (10^2 - 9^2) =$ _____

(68) If $f(x) = 2x + 3$ and $g(x) = 3x - 1$, then $g[f(4)] =$ _____

(69) $(87_{11})(79_{11}) \div 10$ has a remainder of _____

*(70) $(3\pi)^4 =$ _____

(71) $\int_0^2 x^3 \, dx =$ _____

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

(73) If $f(x) = 2 - 3x$, then $f^{-1}(1) =$ _____

(74) $(3x^3 + 2x^2 - x + 1)$ divided by $(x - 1)$ has a remainder of _____

(75) What is the 9th triangular number? _____

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

(77) Let $2x + 1 \equiv 4 (\text{mod } 5)$, $2 \leq x \leq 5$. Find x. _____

(78) The sum of the first nine terms of the Fibonacci sequence 1, 5, 6, 11, 17, ... is _____

(79) Change .33 base 4 to a base 10 fraction. _____

*(80) $898 \div 37.5\% \times \frac{1}{8} =$ _____