

Number Sense Exam 055, 1/5/2018

- (1) $46 \times 12 =$ _____
- (2) $2002 - 1529 - 17 =$ _____
- (3) $5\frac{2}{3} - 3\frac{4}{5} =$ _____ (mixed number)
- (4) $\frac{7}{9} \div \frac{14}{27} =$ _____
- (5) $27.5\% =$ _____ (proper fraction)
- (6) $\frac{5}{7} + \frac{7}{5} =$ _____ (mixed number)
- (7) $192837 \div 11$ has a remainder of _____
- (8) $22\frac{2}{9}\% =$ _____ (proper fraction)
- (9) \$18.00 is $8\frac{1}{3}\%$ of \$ _____
- *(10) $119 + 701 - 351 + 931 =$ _____
- (11) $26^2 =$ _____
- (12) The GCD of 78 and 26 is _____
- (13) $6 + 10 + 14 + 18 + 22 + 26 + 30 =$ _____
- (14) The sum of the prime divisors of 42 is _____
- (15) $\frac{1}{36} - \frac{1}{18} - \frac{1}{6} =$ _____ (proper fraction)
- (16) The mean of 24, 17, 31, and 38 is _____
- (17) $4\frac{5}{12} - 2\frac{2}{3} =$ _____ (mixed number)
- (18) The negative reciprocal of $-2\frac{1}{3}$ is _____
- (19) The mean of 22, 31, and 40 is _____
- *(20) $453 + 231 \times 786 =$ _____
- (21) Set $A = \{b, l, u, e\}$ and $B = \{r, e, d\}$, then $A \cap B$ has how many elements? _____
- (22) The number of positive integral divisors of $5^3 \times 3^2 \times 2^1$ is _____
- (23) $\sqrt{27} \times \sqrt{75} =$ _____
- (24) The LCM of 32 and 72 is _____
- (25) The set $\{M, A, T, H\}$ has _____ subsets
- (26) 2 gallons - 7 quarts = _____ pints
- (27) $11 \times \frac{11}{14} =$ _____ (mixed number)
- (28) $2^3 + 3^3 + 4^3 =$ _____
- (29) $\{s, l, o, p, e\} \cap \{l, i, n, e\}$ has _____ distinct elements
- *(30) $138 \times 3 \times 142 =$ _____
- (31) $(4^4 + 3^3 \times 2^2) \div 5$ has a remainder of _____
- (32) $9 - 7 \times (5 + 3) \div 1 =$ _____
- (33) If $2x - 3 = x + 5$, then $x =$ _____
- (34) The circumference of circle O is 3π inches. The area of circle O is $k\pi$ square inches. $k =$ _____
- (35) 2.25 yards = _____ inches
- (36) The next term in the arithmetic sequence, $\dots, \frac{2}{3}, \frac{7}{6}, \frac{5}{3}, \dots$ is _____
- (37) $223_4 + 133_4 =$ _____ ₄
- (38) If $4x^2 + 5x + 3 = 0$, then the product of the roots is _____
- (39) $6! \div 4! + 5! \div 3! =$ _____
- *(40) $224488 \div 111 =$ _____
- (41) $8^{(x-1)} = 48$, then $8^{(x-2)} =$ _____
- (42) The x -intercept of the line going through (1, 3) and (3, 5) is (x, y) . $x =$ _____
- (43) A set containing k elements has 1023 proper subsets. Find k . _____

- (44) The smallest leg of a right triangle with integral sides is $7''$. The hypotenuse is _____ inches
- (45) The sum of the product of the roots taken two at a time of $x^4 - 2x^3 - 13x^2 + 14x - 24 = 0$ is _____
- (46) 90 miles per hour equals _____ feet per second
- (47) $55 \div .454545\dots =$ _____
- (48) If $x + y = -1$ and $xy = 2$ then $x^3 + y^3 =$ _____
- (49) $64 \div .25 =$ _____
- *(50) $44^2 =$ _____
- (51) $38^2 + (30 + 8)(30 - 8) =$ _____
- (52) The larger root of $6x^2 - 7x - 5 = 0$ is _____
- (53) If two dice are rolled, the odds that the sum of the faces is 2, 3, or 12 is _____
- (54) Let $|2 + 3x| \leq 4$. The greatest value of x is _____
- (55) The first 4 digits of the decimal of $\frac{43}{90}$ is 0. _____
- (56) The volume of a cube with an edge length of 12 cm is _____ cu. inches.
- (57) If $\frac{x-7}{x+8} + \frac{x+8}{x-7}$ is written as a mixed number $A\frac{B}{C}$, then $B =$ _____
- (58) Find the distance between the point $(-3, -1)$ and the line $x = 4$. _____
- (59) 39% of 24 is 13% of _____
- *(60) $2357 \times 111 =$ _____
- (61) If $f(x) = 3x^3 - 2x^2 + x$, then $f''(1) =$ _____
- (62) If $\begin{bmatrix} 5 & 1 \\ 3 & 2 \end{bmatrix} \times \begin{bmatrix} 2 & 1 \\ 2 & 3 \end{bmatrix} = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, then $c =$ _____
- (63) If $\tan^2 A = 5$, then $\sec^2 A - 1 =$ _____
- (64) $3^3 \div 3 =$ _____ 3
- (65) If $\sqrt{4 + \sqrt{5 + \sqrt{x-1}}} = 3$, then $x =$ _____
- (66) $\frac{7}{15} - \frac{27}{61} =$ _____
- (67) If $h(x) = 4x^2 - 2x - 1$, then $h\left(h\left(\frac{1}{2}\right)\right) =$ _____
- (68) How many positive integers less than 63 are relatively prime to 63? _____
- (69) $(456_7 + 654_7) \div 6$ has a remainder of _____
- *(70) $887655 \div 4321 =$ _____
- (71) The vertical asymptote for $f(x) = \frac{7-8x}{8+7x}$ is _____
- (72) The amplitude of $4 \cos 3(x+1) - 2$ is _____
- (73) The period of $y = 5 \cos \left[\frac{1}{4}(x+3\pi) \right] + 2$ is $k\pi$ radians. Find k . _____
- (74) $\int_2^3 x^2 dx =$ _____
- (75) The parabola $y = 2x^2 - 6x + 8$ has a vertex at (h, k) and $h =$ _____
- (76) $13 \times \frac{13}{16} - 13 =$ _____
- (77) If $f(x) = 3x^4 - 2x^3 + x$, then $f''(-2) =$ _____
- (78) Change .43 base 6 to a base 10 fraction. _____ 10
- (79) If $h(x) = 2x - 3$, then $h^{-1}(-1) =$ _____
- *(80) $31^4 =$ _____