

## Number Sense Exam 052, 12/8/2017

- (1) The negative reciprocal of 0.6 is \_\_\_\_\_
- (2)  $1 + 2 \times (5 - 20) \div 15 =$  \_\_\_\_\_
- (3)  $20.15 - 2.015 =$  \_\_\_\_\_ (decimal)
- (4)  $511 - 115 =$  \_\_\_\_\_
- (5)  $572 \div 9 =$  \_\_\_\_\_ (mixed number)
- (6)  $\$15.15 \times 4 = \$$  \_\_\_\_\_
- (7)  $4\frac{1}{4} - 3\frac{2}{3} =$  \_\_\_\_\_
- (8)  $\frac{7}{9} \div \frac{14}{27} =$  \_\_\_\_\_
- (9)  $3143 \div 5 =$  \_\_\_\_\_ (decimal)
- \*(10)  $1947 + 1948 + 111 + 1967 =$  \_\_\_\_\_
- (11) The mode of 4, 3, 7, 4, 2, 7, 5, and 4 is \_\_\_\_\_
- (12) Three-fourths of 2 quarts is \_\_\_\_\_ fluid ounces
- (13) LXXIV = \_\_\_\_\_ (Arabic Numeral)
- (14) The median of 1, 5, 2, 3, 3, 2, 1, & 4 is \_\_\_\_\_
- (15)  $\frac{5}{6} - \frac{5}{12} - \frac{5}{24} =$  \_\_\_\_\_
- (16)  $15 \times 28 =$  \_\_\_\_\_
- (17)  $2 + 6 + 10 + 14 + 18 + 22 + 26 =$  \_\_\_\_\_
- (18)  $4 + 9 + 14 + 19 + \dots + 49 =$  \_\_\_\_\_
- (19)  $2\frac{2}{3} - 3\frac{5}{6} =$  \_\_\_\_\_
- \*(20)  $\sqrt{678} \times \sqrt{1154} =$  \_\_\_\_\_
- (21)  $21^2 + 63^2 =$  \_\_\_\_\_
- (22) If 4 t-shirts sell for \$25.00, then 6 t-shirts will sell for \$ \_\_\_\_\_
- (23) If 6 pens cost \$1.50 then 21 pens cost \$ \_\_\_\_\_
- (24) 45 is  $2\frac{1}{2}\%$  of \_\_\_\_\_
- (25)  $7^3 =$  \_\_\_\_\_
- (26) If  $3x - 5 = 15 - x$ , then  $2x + 1 =$  \_\_\_\_\_
- (27) The discriminant of  $3x^2 - 2x + 1 = 0$  is \_\_\_\_\_
- (28)  $2 + 1 + 3 + 4 + 7 + \dots + 29 =$  \_\_\_\_\_
- (29)  $x + (x + 1) + (x + 2) + (x + 3) + (x + 4) = 50$ , then  $x + 5 =$  \_\_\_\_\_
- \*(30)  $\sqrt{34596} =$  \_\_\_\_\_
- (31) The sum of the roots of  $6x^2 + x + 3 = 0$  is \_\_\_\_\_
- (32) The set  $\{s, l, o, p, e\}$  has \_\_\_\_\_ 3-element subsets
- (33)  $1 + 1 + 2 + 3 + 5 + 8 + \dots + 34 + 55 =$  \_\_\_\_\_
- (34) Find the simple interest on \$600 at  $8\frac{1}{3}\%$  for 24 months. \$ \_\_\_\_\_
- (35) If  $3x + 2y = 7$  and  $4x - 2y = 1$ , then  $x =$  \_\_\_\_\_
- (36)  $125 + 5 + 1 =$  \_\_\_\_\_ 5
- (37) The diagonal of a square is  $3\sqrt{5}$  in. The area of the square is \_\_\_\_\_ square in.
- (38) If  $x^3 = \sqrt{5x^5 + 5x^5 + 5x^5 + 5x^5 + 5x^5}$ , where  $x > 1$ , then  $x =$  \_\_\_\_\_
- (39) If set  $A = \{n, u, m, b, e, r\}$  and set  $B = \{b, e, a, r\}$ , then  $A \cup B$  has \_\_\_\_\_ elements
- \*(40)  $22 \times 44 \times 66 =$  \_\_\_\_\_
- (41) The cube root of 250,047 is \_\_\_\_\_
- (42)  $45 \times 16 - 24 \times 30 =$  \_\_\_\_\_
- (43) The side opposite  $60^\circ$  in a right triangle is 3. The length of the hypotenuse is \_\_\_\_\_
- (44) If  $A^4 \div A^7 \times A^k = A^5$ , and  $A > 1$ , then  $k =$  \_\_\_\_\_

- (45)  $72 \times .08333 \dots =$  \_\_\_\_\_
- (46) If  $x + 4y = 5$  and  $x - 3y = 4$  then  $y =$  \_\_\_\_\_
- (47)  $6^3 \times 6^8 \div 6^k = 6^{-1}$ , then  $k =$  \_\_\_\_\_
- (48) Find the area of the triangle whose sides are 10, 10, and 16 units long. \_\_\_\_\_
- (49)  $5^3 \times 2^5 =$  \_\_\_\_\_
- \*(50)  $\sqrt[3]{26789} \times \sqrt{911} \times 31 =$  \_\_\_\_\_
- (51) If  $\log_x 27 = 1.5$ , then  $x =$  \_\_\_\_\_
- (52)  $\frac{3}{8} - \frac{26}{73} =$  \_\_\_\_\_
- (53) The slope of the line containing the points  $(-1, 2)$  and  $(-3, 4)$  is \_\_\_\_\_
- (54)  $1^2 + 2^2 + 3^2 + \dots + 7^2 =$  \_\_\_\_\_
- (55) A regular polygon with a central angle of  $72^\circ$  has a perimeter of  $60''$ . Each side is \_\_\_\_\_ inches
- (56)  $\sin\left(\frac{5\pi}{3}\right) \times \sin\left(\frac{5\pi}{3}\right) =$  \_\_\_\_\_
- (57) If  $\log_a 9 = .8$ , then  $\log_a 81 =$  \_\_\_\_\_
- (58) The measure of an interior angle of a regular hexagon is \_\_\_\_\_ degrees
- (59)  ${}_4P_3 \times {}_4C_3 =$  \_\_\_\_\_
- \*(60)  $(24)^4 =$  \_\_\_\_\_
- (61)  $2 \sin 165^\circ \cos 165^\circ =$  \_\_\_\_\_
- (62)  $21 \times 28 + 28 =$  \_\_\_\_\_
- (63) When tossing 5 coins, what is the probability of getting 3 heads? \_\_\_\_\_
- (64)  $\ln(e^3) =$  \_\_\_\_\_
- (65)  $35^2 - (30^2 - 5^2) =$  \_\_\_\_\_
- (66) How many positive integers less than or equal to 20 are relatively prime to 20? \_\_\_\_\_
- (67)  $g(x) = x^2 + 1$  and  $h(x) = 1 - x^2$ , then  $g(h(2)) =$  \_\_\_\_\_
- (68) A bag has 3 red, 6 white, and 9 blue marbles. What is the probability of drawing a red one? \_\_\_\_\_
- (69) Find  $x$  if  $\det \begin{bmatrix} -2 & -1 \\ 1 & x \end{bmatrix} = 5$ . \_\_\_\_\_
- \*(70)  $\sqrt{1025} \times \sqrt{730} =$  \_\_\_\_\_
- (71)  $\frac{1}{10} + \frac{1}{40} + \frac{1}{88} + \frac{1}{154} =$  \_\_\_\_\_
- (72) Change  $.444 \dots$  base 9 to a base 10 fraction. \_\_\_\_\_
- (73)  $\int_{-1}^2 3x^2 dx =$  \_\_\_\_\_
- (74) The vertical asymptote of  $\frac{2x - 1}{3x + 4}$  is \_\_\_\_\_
- (75)  $6^3 - 5^3 + 4^3 =$  \_\_\_\_\_
- (76) If the initial point of a vector is  $(2, 5)$  and the terminal point is  $(-1, 1)$ , then  $\|v\| =$  \_\_\_\_\_
- (77)  $13 \times \frac{13}{14} - 13 =$  \_\_\_\_\_
- (78) If  $f(x) = \frac{3}{1 - x}$ , then  $f^{-1}(2) =$  \_\_\_\_\_
- (79)  $\int_1^4 (2x + 3) dx =$  \_\_\_\_\_
- \*(80) 6666 feet/second = \_\_\_\_\_ miles/hour