

## Number Sense Exam 057, 1/26/2018

- (1)  $12 \div 6 \times 3 - 5 \times 2 =$  \_\_\_\_\_
- (2)  $\frac{3}{4} \times \frac{14}{15} =$  \_\_\_\_\_
- (3)  $\frac{7}{9} =$  \_\_\_\_\_, % (mixed number)
- (4)  $2005 + 5002 =$  \_\_\_\_\_
- (5)  $\frac{1}{12} =$  \_\_\_\_\_ %
- (6)  $1367 \div 5 =$  \_\_\_\_\_ (decimal)
- (7)  $22.5\% =$  \_\_\_\_\_ (fraction)
- (8)  $23 \times 23 =$  \_\_\_\_\_
- (9)  $15 \times 28 =$  \_\_\_\_\_
- \*(10)  $44 + 444 + 4444 + 44444 =$  \_\_\_\_\_
- (11) If 11 cups cost \$13.31 then 5 cups cost \$ \_\_\_\_\_
- (12) The GCD of 52 and 78 is \_\_\_\_\_
- (13) The mean of 18, 22, 36, and 44 is \_\_\_\_\_
- (14)  $1764 = 42 \times$  \_\_\_\_\_
- (15) If 1 cm. = .39 in., then 3 meters = \_\_\_\_\_ in.
- (16) Which is larger: .54 or  $\frac{6}{11}$ ? \_\_\_\_\_
- (17)  $85 \times 105 =$  \_\_\_\_\_
- (18)  $65^2 =$  \_\_\_\_\_
- (19)  $-2 + |-1| - |-3 - 4| =$  \_\_\_\_\_
- \*(20)  $\sqrt{8679} =$  \_\_\_\_\_
- (21) 37.5% of a gallon is \_\_\_\_\_ pints
- (22) 48 has \_\_\_\_\_ positive integral divisors
- (23) The sum of three consecutive integers is 63. The middle integer is \_\_\_\_\_
- (24)  $13^2 =$  \_\_\_\_\_
- (25) If  $f(x) = 2x^3 - 6x^2 + 6x - 2$ , then  $f(4) =$  \_\_\_\_\_
- (26)  $95 \times 45 =$  \_\_\_\_\_
- (27) Round  $\sqrt{5}$  to the nearest tenth. \_\_\_\_\_
- (28)  $3.222\dots - 2.333\dots =$  \_\_\_\_\_
- (29) 45 is  $2\frac{1}{2}\%$  of \_\_\_\_\_
- \*(30)  $\sqrt{290} \times 129 =$  \_\_\_\_\_
- (31)  $(24 \times 12 + 2 \times 11) \div 7$  has a remainder of \_\_\_\_\_
- (32) If  $a = 4$  and  $b = 3$ , then  $(a - b)(a^2 + ab + b^2) =$  \_\_\_\_\_
- (33) How many integers divide 36? \_\_\_\_\_
- (34)  $2.8333\dots =$  \_\_\_\_\_ (fraction)
- (35) The discriminant of  $6x^2 + 7x + 2 = 0$  is \_\_\_\_\_
- (36)  $321_6 + 20_6 - 15_6 =$  \_\_\_\_\_ <sub>6</sub>
- (37) The area of a square is equal to its perimeter. The length of one side is \_\_\_\_\_
- (38) If  $x = 5$  and  $y = 3$ , then  $9x^2 - 6xy + y^2 =$  \_\_\_\_\_
- (39)  $91 \times 98 =$  \_\_\_\_\_
- \*(40)  $\sqrt[3]{1730} \times \sqrt{223} \times 18 =$  \_\_\_\_\_
- (41) The next term of the sequence 4, 11, 18, 25, ... is \_\_\_\_\_
- (42) If  $32^x = 128$ , then  $x =$  \_\_\_\_\_
- (43)  $A$  is 25% less than  $B$  and  $B$  is 25% less than  $C$ .  $A$  is what % less than  $C$ ? \_\_\_\_\_ %
- (44) If  $3x - 4 < 5$ , then  $2x <$  \_\_\_\_\_
- (45)  $31 \times 4! + 36 \times 3! =$  \_\_\_\_\_

- (46) A pentagon has \_\_\_\_\_ distinct diagonals.
- (47)  $221 \times 133 =$  \_\_\_\_\_
- (48) If the perimeter of a square is 35 units, then its area is \_\_\_\_\_ sq. units (mixed number)
- (49) If the GCD of  $x$  and 15 is 5, and their LCM is 60, then  $x =$  \_\_\_\_\_
- \*(50)  $\sqrt{101761} =$  \_\_\_\_\_
- (51) The next term of 4, 7, 12, 19, 28, ... is \_\_\_\_\_
- (52) The probability of winning is 60%. The odds of losing is \_\_\_\_\_
- (53)  $135 \times 152 =$  \_\_\_\_\_
- (54)  $32_6 \div 5_6 \times 4_6 =$  \_\_\_\_\_<sub>6</sub>
- (55) The sides of a triangle are 4, 6, and  $x$ . The least value of  $x$ , where  $x$  is a natural number is \_\_\_\_\_
- (56)  $53 \times 53 + 50 \times 50 - 3 \times 3 =$  \_\_\_\_\_
- (57) Let  $\frac{5!}{3!} = \frac{(x-1)!}{x!}$ . Find  $x$ . \_\_\_\_\_
- (58)  ${}_6C_4 =$  \_\_\_\_\_
- (59)  $12\frac{1}{2}\%$  of 24 yards = \_\_\_\_\_ feet
- \*(60)  $75^2 \div 25^3 \times 50^4 =$  \_\_\_\_\_
- (61) A right triangle with integer sides has one leg of 17 units and a hypotenuse of \_\_\_\_\_
- (62) If the initial point of a vector is (2, 3) and the terminal point is (4, 5), then  $\|v\|^2 =$  \_\_\_\_\_
- (63) Two cards are drawn from a standard deck of cards without replacement. What is the probability that both cards are Jacks? \_\_\_\_\_
- (64) The odds of losing are 4 to 7. The probability of winning is \_\_\_\_\_
- (65) If  $\ln(16) = \ln(2) + k \ln(2)$ , then  $k =$  \_\_\_\_\_
- (66)  $f(x) = 4x - 1$  and  $g(x) = 2 + 3x$ .  $g(f(\frac{1}{2})) =$  \_\_\_\_\_
- (67) When tossing 5 coins, what is the probability of getting 3 heads? \_\_\_\_\_
- (68)  $28^2 - 27^2 + 26^2 - 25^2 =$  \_\_\_\_\_
- (69) The slope of the line  $3x - 2y = 5$  is \_\_\_\_\_
- \*(70)  $2152008 \div 3579 =$  \_\_\_\_\_
- (71) Change  $\frac{13}{25}$  to a base 5 decimal. \_\_\_\_\_<sub>5</sub>
- (72)  $g(x) = 2x + 3$  and  $h(x) = 2 - 3x$ .  $g(h(4)) =$  \_\_\_\_\_
- (73) A number is randomly drawn from the set {1, 2, 3, 4, 5}. What is the probability that the number drawn is a prime number? \_\_\_\_\_ %
- (74)  $\sum_1^3 (x+1) =$  \_\_\_\_\_
- (75)  $0.313131\dots_5 =$  \_\_\_\_\_<sub>5</sub> (proper fraction)
- (76) The minimum value of  $\sin(2x) - 3$  is \_\_\_\_\_
- (77) The minimum value of  $y = x^2 + 2x - 3$  is \_\_\_\_\_
- (78)  $\int_0^3 (x^2) dx =$  \_\_\_\_\_
- (79) If  $f(x) = x^4 + 4x^3 + 6x^2 + 4x + 1$ , find  $f(4)$ . \_\_\_\_\_
- \*(80)  $898 \div 37.5\% \times \frac{1}{8} =$  \_\_\_\_\_