

## Number Sense Exam 010, 1/27/2017

- (1)  $16^2 =$  \_\_\_\_\_
- (2)  $\$20.06 + \$60.02 =$  \_\_\_\_\_
- (3)  $4 - 6 \times 8 + 10 =$  \_\_\_\_\_
- (4)  $2\frac{3}{4} \times 5 =$  \_\_\_\_\_ (mixed number)
- (5)  $4\frac{1}{8} - 2\frac{1}{4} =$  \_\_\_\_\_ (mixed number)
- (6)  $34^2 =$  \_\_\_\_\_
- (7)  $\frac{3}{16} =$  \_\_\_\_\_ % (decimal)
- (8)  $25 \times 70 + 25 \times 50 =$  \_\_\_\_\_
- (9)  $14 \times 32 =$  \_\_\_\_\_
- \*(10)  $55 \times 555 - 5555 =$  \_\_\_\_\_
- (11)  $2700 \div 75 =$  \_\_\_\_\_
- (12)  $-2 + |-1| - |-3 + 4| =$  \_\_\_\_\_
- (13)  $7 + 16 \div 5 \times 10 =$  \_\_\_\_\_
- (14) Which is smaller:  $\frac{5}{11}$  or  $\frac{11}{23}$ ? \_\_\_\_\_
- (15)  $3\frac{4}{5} - 8\frac{9}{10} =$  \_\_\_\_\_ (mixed number)
- (16)  $6\frac{7}{8} - 5\frac{3}{4} =$  \_\_\_\_\_
- (17)  $4\frac{5}{6} + 10\frac{11}{12} =$  \_\_\_\_\_ (mixed number)
- (18)  $5 + 10 \times 15 \div 20 - 25 =$  \_\_\_\_\_
- (19)  $MCDV + DCIV =$  \_\_\_\_\_ (Arabic numeral)
- \*(20)  $235689 \div 111 =$  \_\_\_\_\_
- (21) If  $A = 1$ ,  $B = 2A$ , and  $C = -3A$ , then  
 $(A + B) \div C =$  \_\_\_\_\_
- (22)  $(5)^{-1} + (5)^{-2} =$  \_\_\_\_\_
- (23)  $200_6 =$  \_\_\_\_\_ <sub>10</sub>
- (24)  $4^{3/2} =$  \_\_\_\_\_
- (25)  $3367 \times 13 =$  \_\_\_\_\_
- (26) 12.8 is what percent of 20? \_\_\_\_\_ %
- (27) If  $\frac{3}{4} = \frac{3x}{5}$ , then  $x =$  \_\_\_\_\_
- (28) 200 base 10 equals \_\_\_\_\_ base 7
- (29) The sum of the positive divisors of 28 is \_\_\_\_\_
- \*(30)  $27^2 \div 9^2 \times 18^2 =$  \_\_\_\_\_
- (31)  $44^2 + 36^2 =$  \_\_\_\_\_
- (32) If  $x = 6$  and  $y = 9$  then  $x^2 + 2xy + y^2 =$  \_\_\_\_\_
- (33)  $.575757\dots =$  \_\_\_\_\_ (fraction)
- (34) If  $x^3 = \sqrt{5x^5 + 5x^5 + 5x^5 + 5x^5 + 5x^5}$ , where  $x > 1$ , then  $x =$  \_\_\_\_\_
- (35)  $1 + 1 + 2 + 3 + 5 + 8 + \dots + 89 + 144 =$  \_\_\_\_\_
- (36) If  $P = 2$ ,  $Q = -2$ , and  $R = 4$ , then  $PQ + R =$  \_\_\_\_\_
- (37)  $385 \times 13 =$  \_\_\_\_\_
- (38)  $33 \times 91 =$  \_\_\_\_\_
- (39) Three times a number minus 7 equals to the number plus 13. The number is \_\_\_\_\_
- \*(40)  $\sqrt{20164} =$  \_\_\_\_\_
- (41) The distance between the points (1, 3) and (4, 7) is \_\_\_\_\_
- (42) The side length of a regular spetagon is 6 cm. Its perimeter is \_\_\_\_\_ cm
- (43) The slope of the line  $3x - 5y = 7$  is \_\_\_\_\_
- (44)  $\frac{3}{14} =$  \_\_\_\_\_ %
- (45)  $\frac{7}{10} - \frac{20}{31} =$  \_\_\_\_\_

- (46)  $\frac{3}{5} - \frac{25}{39} =$  \_\_\_\_\_
- (47)  $5^2 \times 4^3 =$  \_\_\_\_\_
- (48)  $3101 \div 9 =$  \_\_\_\_\_ (mixed number)
- (49) The area of a trapezoid with bases of 3'' and 4'' is 14 sq. in. Its height is \_\_\_\_\_ in.
- \*(50)  $\sqrt{102100} =$  \_\_\_\_\_
- (51) The smallest integer such that  $2x - 3 > 4$  is \_\_\_\_\_
- (52)  $81 \times 89 + 16 =$  \_\_\_\_\_
- (53)  $71 \times 79 - 9 =$  \_\_\_\_\_
- (54)  $311 \times 122 =$  \_\_\_\_\_
- (55) Given  $8424 \div 36 = 234$ . find  $8424 \div 7\frac{1}{5}$ . \_\_\_\_\_
- (56)  ${}_8C_5 + {}_8C_3 =$  \_\_\_\_\_
- (57)  $54 + 18 + 6 + 2 + \dots =$  \_\_\_\_\_
- (58)  $221 \times 141 =$  \_\_\_\_\_
- (59) The line containing the points (4, 7) and (3, 6) has a  $y$ -intercepts of  $(x, y)$ .  $y =$  \_\_\_\_\_
- \*(60)  $875 \times 890 \div 777 =$  \_\_\_\_\_
- (61) The sum of the GCD and LCM of 8 and 20 is \_\_\_\_\_
- (62) The sum of the first ten terms of the Fibonacci sequence 4, 5, 9, 14, 23, ... is \_\_\_\_\_
- (63) The slope of the line containing the points (-1, 1) and (2, -2) is \_\_\_\_\_
- (64) 132 feet per second = \_\_\_\_\_ miles per hour
- (65)  $55 + 21 + 8 + 3 + 1 =$  \_\_\_\_\_
- (66)  $\sqrt{4489} =$  \_\_\_\_\_
- (67) If  $(\sqrt[4]{a^2})(\sqrt[3]{a}) = (\sqrt[n]{a^k})$ , where  $n$  and  $k$  are relatively prime, then  $n =$  \_\_\_\_\_
- (68)  $54^2 =$  \_\_\_\_\_
- (69) If  $\log_4 8 = y$  then  $y^2 - 1.25 =$  \_\_\_\_\_
- \*(70)  $4.8^3 \times 6.3^3 =$  \_\_\_\_\_
- (71)  $\frac{1}{56} + \frac{1}{72} + \frac{1}{90} + \frac{1}{110} =$  \_\_\_\_\_
- (72)  $\sum_0^3 (2x - 1) =$  \_\_\_\_\_
- (73) Find  $k$ ,  $0 \leq k \leq 6$ , if  $(6!)(3!) \equiv k \pmod{7}$ . \_\_\_\_\_
- (74) The amplitude  $y = 2 - 5 \cos 4(x - 3)$  is \_\_\_\_\_
- (75)  $\int_0^2 x^2 dx =$  \_\_\_\_\_
- (76)  $444 \times \frac{4}{37} =$  \_\_\_\_\_
- (77) Change  $0.32_5$  to a base 10 decimal. \_\_\_\_\_
- (78) If  $f(x) = \frac{2x+1}{3x-8}$ , then  $f'(3) =$  \_\_\_\_\_
- (79) Change .12 base 5 to a base 10 decimal. \_\_\_\_\_
- \*(80)  $798 \div 44\frac{4}{9}\% \times .25 =$  \_\_\_\_\_