

# Number Sense Exam 008, 1/13/2017

- (1)  $\frac{2}{3} \div \frac{4}{5} =$  \_\_\_\_\_
- (2)  $.35 \times 3.5 =$  \_\_\_\_\_ (decimal)
- (3)  $75 \times .84 =$  \_\_\_\_\_
- (4)  $2008 - 2009 =$  \_\_\_\_\_
- (5)  $\frac{6}{7} - \frac{7}{8} =$  \_\_\_\_\_
- (6)  $\frac{1}{40} =$  \_\_\_\_\_ %
- (7)  $4\frac{1}{4}\% =$  \_\_\_\_\_ (proper fraction)
- (8)  $(-3) \times 1\frac{1}{2} =$  \_\_\_\_\_ (mixed number)
- (9)  $2008 \div 25 =$  \_\_\_\_\_ (decimal)
- \*(10)  $7766 - 555 + 44 =$  \_\_\_\_\_
- (11) 34 is 85% of what? \_\_\_\_\_
- (12) Which is larger:  $3\frac{1}{6}$  or 3.16? \_\_\_\_\_
- (13)  $.2111\dots =$  \_\_\_\_\_ (proper fraction)
- (14) 45% of 45 is \_\_\_\_\_
- (15) The sum of the prime divisors of 42 is \_\_\_\_\_
- (16)  $\frac{7}{12} =$  \_\_\_\_\_ % (mixed number)
- (17)  $14^3 =$  \_\_\_\_\_
- (18) If 12 ounces of nuts costs \$1.25 then 3 pounds of nuts will cost \$ \_\_\_\_\_
- (19)  $-2 - (-3) + (-4) - 5 =$  \_\_\_\_\_
- \*(20)  $\sqrt{262626} =$  \_\_\_\_\_
- (21)  $(-12)^3 =$  \_\_\_\_\_
- (22) If  $x + 2y = 3$  and  $2y - x = -9$ , then  $y =$  \_\_\_\_\_
- (23)  $3367 \times 13 =$  \_\_\_\_\_
- (24)  $1.777\dots - 1.555\dots + 1.333\dots =$  \_\_\_\_\_
- (25) If  $\frac{3}{4} = \frac{3x}{5}$ , then  $x =$  \_\_\_\_\_
- (26)  $16^2 - 4^2 =$  \_\_\_\_\_
- (27) 3 pints is what percent of a cup? \_\_\_\_\_ %
- (28)  $246531 \div 4$  has a remainder of \_\_\_\_\_
- (29) If four pens cost \$1.72, then eighteen pens cost \$ \_\_\_\_\_
- \*(30)  $959 \times 626 =$  \_\_\_\_\_
- (31)  $72 + 18 + 4 =$  \_\_\_\_\_ base 6
- (32)  $\sqrt{192} - \sqrt{75} = \sqrt{x}$ . Find  $x$ . \_\_\_\_\_
- (33) If  $\frac{2}{3} + \frac{4}{5} = \frac{1}{x}$ , then  $x =$  \_\_\_\_\_
- (34) The set  $\{s, l, o, p, e\}$  has \_\_\_\_\_ 3-element subsets
- (35) If  $8 - x = 3$ , then  $3x - 8 =$  \_\_\_\_\_
- (36)  $f(x) = 9x^2 + 12x + 4$ , evaluate  $f(2)$ . \_\_\_\_\_
- (37)  $33 \times 91 =$  \_\_\_\_\_
- (38) 42% of 35 is 70% of \_\_\_\_\_
- (39)  $9^3 =$  \_\_\_\_\_
- \*(40)  $39 \times 49 \times 29 =$  \_\_\_\_\_
- (41) The point  $(-2, -3)$  is reflected across the x-axis to point  $(h, k)$ . Find  $k$ . \_\_\_\_\_
- (42)  $3^x = 9.17$ , then  $3^{x+1} =$  \_\_\_\_\_
- (43)  $30 \times 11 + 22 \times 15 =$  \_\_\_\_\_
- (44) The slope of the line  $x + 2y = 4$  is \_\_\_\_\_
- (45)  $\frac{5}{11} - \frac{29}{67} =$  \_\_\_\_\_
- (46)  $63 \div .875 =$  \_\_\_\_\_
- (47)  $45 \times 95 =$  \_\_\_\_\_

- (48) If  $13 < b < 85$  are the integral sides of a right triangle then the area of the triangle is \_\_\_\_\_
- (49)  $7 \times 5! - 6!$  \_\_\_\_\_
- \*(50)  $\sqrt{191844}$  \_\_\_\_\_
- (51) If  $3^x = 1.2$  then  $9^x =$  \_\_\_\_\_
- (52)  $(k - 4i)^2 = -7 - 24i$ . Find  $k$ . \_\_\_\_\_
- (53) The smaller root of  $7x^2 + 15x + 2 = 0$  is \_\_\_\_\_
- (54) The vertex of the parabola  $y = x^2 + 8x$  is  $(h, k)$ . Find  $h$ . \_\_\_\_\_
- (55) If  $\frac{3x}{5}$  has a remainder of 4 and  $\frac{3y}{5}$  has a remainder of 1 then  $\frac{xy}{5}$  has a remainder of \_\_\_\_\_
- (56)  $4 + 1 + \frac{1}{4} + \frac{1}{16} + \dots =$  \_\_\_\_\_
- (57) If  $\log_4 2 = k$ , then  $k =$  \_\_\_\_\_
- (58) The odds of losing is  $\frac{7}{11}$ . The probability of winning is \_\_\_\_\_
- (59)  $61 \times 69 + 16 =$  \_\_\_\_\_
- \*(60) The area of  $14^2 + 16y^2 = 224 =$  \_\_\_\_\_
- (61) The dot product for  $u = (2, 1)$  and  $v = (4, 3)$  is \_\_\_\_\_
- (62) The sum of the first twelve terms of the Fibonacci sequence 1, 2, 3, 5, 8, 13, 21, ... is \_\_\_\_\_
- (63) If  $\sin\left(\frac{\pi}{3}\right) = \cos(A)$ ,  $A \in QI$ , then  $A =$  \_\_\_\_\_ radians
- (64)  $\sqrt{42436} =$  \_\_\_\_\_
- (65) The remainder, in base 6, when 234 is divided by 6 is \_\_\_\_\_
- (66) If  $\log_4 2x + \log_4 3 = 2$ , then  $x =$  \_\_\_\_\_
- (67)  $2^3 \times 5^3 \times 7^3 =$  \_\_\_\_\_
- (68) The sum of the first eleven terms of the Fibonacci sequence 1, 5, 6, 11, 17, 28, ... is \_\_\_\_\_
- (69)  $71^2 - 70^2 + 69^2 - 68^2 =$  \_\_\_\_\_
- \*(70) The volume of a sphere with a diameter of 12 cm is \_\_\_\_\_ cu. cm
- (71) If  $f(x) = \frac{3}{1-x}$ , then  $f^{-1}(2) =$  \_\_\_\_\_
- (72) Find  $x$ , if  $\det \begin{bmatrix} 1 & -2 \\ x & 4 \end{bmatrix} = 5$ . \_\_\_\_\_
- (73) If  $f(x) = 4x^3 - 3x^2 + 1$ , the  $f'(-1) =$  \_\_\_\_\_
- (74) Change .12 base 5 to a base 10 decimal. \_\_\_\_\_
- (75)  $\int_0^2 x^3 dx =$  \_\_\_\_\_
- (76)  $\lim_{x \rightarrow 1} \frac{1}{2x} =$  \_\_\_\_\_
- (77)  $\int_0^2 (3x + 1) dx =$  \_\_\_\_\_
- (78)  $\frac{1}{2} \times \frac{2}{3} \times \frac{4}{5} \times \frac{6}{7} =$  \_\_\_\_\_
- (79)  $f(x) = x^4 + 4x^3 + 6x^2 + 4x + 1$ . Find  $f'(-1) =$  \_\_\_\_\_
- \*(80)  $17600 \times 9\frac{1}{11} \times 6.25\% =$  \_\_\_\_\_