

Number Sense Exam 058, 2/2/2018

- (1) $16 \div 4 \times 2 + 5 \times 2^2 =$ _____
- (2) $\frac{7}{9} \div \frac{14}{27} =$ _____
- (3) MD + DC = _____ (Arabic numeral)
- (4) $2 + (-6) + 4 + (-8) =$ _____
- (5) $1947 - 2016 =$ _____
- (6) $2015 \div 4 =$ _____ (decimal)
- (7) MMIII = _____ (Arabic Numeral)
- (8) $10.38 \div .6 =$ _____ (decimal)
- (9) $2010 \div 5 =$ _____
- *(10) $88 - 222 + 99 - 333 =$ _____
- (11) The LCM of 35 and 49 is _____
- (12) 1 rod + 2 yards = _____ feet
- (13) CCCXIX = _____ (Arabic Numeral)
- (14) 1 gallon + 3 pints = _____ ounces
- (15) CLXXII = _____ (Arabic Numeral)
- (16) How many even integers are between 14 and 52? _____
- (17) $12^3 =$ _____
- (18) $2013 \div 11$ has a remainder of _____
- (19) $4^0 + 4^{-1} + 4^{-2} =$ _____
- *(20) $8 \times 15 \times 1947 =$ _____
- (21) $.555 \dots + .666 \dots - .777 \dots =$ _____
- (22) If $2(x)^{-3} - 3 = 125$, then $x =$ _____
- (23) If $x + (x+3) + (x+6) + (x+9) = 54$, then $(x+12) =$ _____
- (24) Which of the following is a perfect number: 14, 28, or 42? _____
- (25) How many integers between 83 and 13 are divisible by 12? _____
- (26) $0.222 \dots - 0.444 \dots - 0.666 \dots =$ _____
- (27) The time it will take Ted to drive 360 miles at an average speed of 45 mph is _____ hours
- (28) $2^2 + 3^2 + 5^2 + 8^2 + 13^2 =$ _____
- (29) $7^3 =$ _____
- *(30) $148 \times 5 \times 152 =$ _____
- (31) The product of the roots of $3x^2 + 4x - 5 = 0$ is _____
- (32) The product of the roots of $5x^2 + 4x - 3 = 0$ is _____
- (33) Picture A is 8" by 10" and B is 9" by 12". The ratio of A's perimeter to B's perimeter is _____
- (34) If $12x^4 - 9x^3 - 2x^2 + 13x + 6 = 0$, then the product of the roots is _____
- (35) If $a = 14$ and $b = 2$, then $4a^2 + 4ab + b^2 =$ _____
- (36) $72 + 18 + 4 =$ _____ base 6
- (37) 44 base 10 is equivalent to _____ base 4
- (38) If $2x - 3 = x + 5$, then $x =$ _____
- (39) If $x = 9$ and $y = 3$, then $x^2 - 6xy + 9y^2 =$ _____
- *(40) $24 \times 34 \times 44 =$ _____
- (41) $60^\circ\text{F} =$ _____ $^\circ\text{C}$
- (42) The measure of the interior angles of a regular hexagon is $k\pi$ radians. $k =$ _____
- (43) $14 \times 715 =$ _____

- (44) (x, y) is the midpoint of the line segment whose endpoints are $(2, 5)$ and $(5, 9)$. $y =$ _____
- (45) $9^6 \times 9^{-4} \div 9^{-2} = 9^k$, then $k =$ _____
- (46) Find the coefficient of the x^2y^2 term in the expansion of $(2x + y)^4$. _____
- (47) A triangle has integral sides of 4, 9, and x . The smallest value of x is _____
- (48) 35% of 40 = 20% of _____
- (49) A pentagon has _____ distinct diagonals.
- *(50) $300 \log 300 =$ _____
- (51) 63% of $777\frac{7}{9}$ is _____
- (52) If $\ln 25 = k \ln 5$, then $k =$ _____
- (53) $301 \times 301 =$ _____
- (54) A regular pentagon has _____ distinct diagonals.
- (55) If $\ln x = 5$, then $x =$ _____
- (56) ${}_6C_3 =$ _____
- (57) The legs of a right triangle are 5 and 12. The length of the altitude to the hypotenuse is _____
- (58) 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 _____
- (59) The expansion of $(3x - 5y)^6$ has _____ terms
- *(60) $22 \times 22 \times 22 =$ _____
- (61) If P is $\frac{3}{4}$ of Q and Q is $\frac{2}{3}$ of R then R is what percent of P ? _____%
- (62) Find $f(5)$ if $f(x) = \log_5 x + 5$. _____
- (63) If $f(x) = [x - 2.4]$ is the greatest integer function, then the value of $f(8.1)$ is _____
- (64) $(\sin 225^\circ)(\cos 315^\circ) =$ _____
- (65) 630° equals $k\pi$ radians. Find k . _____
- (66) $322 \times 1111 =$ _____
- (67) $f(x) = 5x^2 - 7$ and $g(x) = 4 - 2x$. $f(g(3)) =$ _____
- (68) 88 feet per second = _____ miles per hour
- (69) $202 \times 32 =$ _____
- *(70) $314 \times 27.2 \times 1.62 =$ _____
- (71) $\int_1^3 x^2 dx =$ _____
- (72) A store has red, blue, green, brown, purple, and yellow crayons. How many different sets of four crayons can the store sell? _____
- (73) $13^5 \div 15$ has a remainder of _____
- (74) $0.313131\dots_5 =$ _____ $_5$ (proper fraction)
- (75) If $u = (2, -5)$ and $v = (-1, -7)$, are vectors, then their dot product is _____
- (76) If $u = (2, -3)$ and $v = (4, 4)$ are vectors, then their dot product is _____
- (77) The sum of the first nine terms of the Fibonacci sequence 3, 5, 8, 13, 21, ... is _____
- (78) The area of a square is decreased from 625 sq. in. to 576 sq. in. Find the corresponding decrease in the perimeter. _____ in.
- (79) $\int_0^1 x^4 dx =$ _____
- *(80) 624 miles is equivalent to _____ rods