

Number Sense Exam 047, 10/28/2017

- (1) $\frac{2}{7} \div \frac{3}{8} =$ _____
- (2) $3368 \div 11$ has a remainder of _____
- (3) $(24 + 18) \div 12 \times (3 - 6) =$ _____
- (4) $27 \times 27 =$ _____
- (5) $2014 \div 6 =$ _____ (mixed number)
- (6) $20.07 - 2.007 =$ _____ (decimal)
- (7) $234 \times 5 =$ _____
- (8) $68\% =$ _____ (proper fraction)
- (9) $1.723 + 12.53 =$ _____ (decimal)
- *(10) $3007 - 307 + 7003 - 703 =$ _____
- (11) $1 + 3 + 5 + \dots + 23 =$ _____
- (12) 3 gallons = _____ pints
- (13) 72 has _____ positive integral divisors
- (14) $24 \times 17 - 19 \times 17 =$ _____
- (15) $33 \times 44 =$ _____
- (16) Find the cost of driving a truck 189 miles at \$.33 per mile. \$ _____
- (17) The mean of 22, 31, and 40 is _____
- (18) $7 + 12 + 17 + 22 + \dots + 47 =$ _____
- (19) $15^3 =$ _____
- *(20) $224488 \div 111 =$ _____
- (21) $421_5 =$ _____ ₁₀
- (22) The largest positive prime integral divisor of 110 is _____
- (23) If $x = 5$ and $y = 2$ then $x^2 - 2xy + y^2 =$ _____
- (24) $9.111\dots - 3.333\dots =$ _____
- (25) 24% of 25 is 20% of _____
- (26) $45^2 + 46^2 =$ _____
- (27) $.212121\dots =$ _____ (proper fraction)
- (28) $.2999\dots =$ _____ (proper fraction)
- (29) $6^2 + 18^2 =$ _____
- *(30) $14 \times 11 \times 33 =$ _____
- (31) Which of the following is an evil number: 4, 6, or 8? _____
- (32) Round $\sqrt{8} + \sqrt{7}$ to a whole number. _____
- (33) $1073 \div 29 =$ _____
- (34) $103 \times 112 =$ _____
- (35) $14443 \times 23 =$ _____
- (36) $123 \times 17 =$ _____
- (37) Find k , if $4x^2 + kx + 1 = 0$ and the sum of the roots is $\frac{3}{2}$. $k =$ _____
- (38) $.2888\dots =$ _____ (fraction)
- (39) 33 plus 75% of 44 is _____
- *(40) $316 \times 2013 =$ _____
- (41) A hexagon has _____ sides
- (42) Find k if the product of the roots of $x^2 + 2x + k = 0$ is 8. $k =$ _____
- (43) $911 \div .090909\dots =$ _____
- (44) $91 \times 98 =$ _____

- (45) $\dots, -1\frac{1}{3}, -\frac{2}{3}, x, y, \dots$ is an arithmetic sequence.
Find the value of y . _____
- (46) If $4^{x+1} = 8$, then $x =$ _____
- (47) $48_9 =$ _____ $_3$
- (48) Let $a^3 \div a^4 \div a^5 = a^k$, where $a > 1$. $k =$ _____
- (49) $2016_9 \div 3_9 =$ _____ $_9$
- *(50) $\sqrt{308152015} =$ _____
- (51) $555 \times \frac{5}{37} =$ _____
- (52) $54 + 18 + 6 + 2 + \dots =$ _____
- (53) The larger root of $6x^2 - 7x - 5 = 0$ is _____
- (54) An acute triangle has integer sides of 4, x , and 9.
The largest value of x is _____
- (55) If $2 \log_6(8x + 4) = 4$, then $x =$ _____
- (56) How many subsets containing only 4 elements does the set $\{d, e, c, i, m, a, l, s\}$ have? _____
- (57) The coefficient of the xy^2 term when $(x + 2y)^3$ is expanded is _____
- (58) $0.444\dots \div 0.1616\dots =$ _____
- (59) $\tan(30^\circ) \times \cot(60^\circ) =$ _____
- *(60) $22 \times 22 \times 22 =$ _____
- (61) $\det \begin{bmatrix} 1 & 3 \\ k & 6 \end{bmatrix} = 10$. $k =$ _____
- (62) $(x^3 - 2x^2 + 4x - 6) \div (x - 2)$ has a remainder of _____
- (63) $34 + 13 + 5 + 2 + 1 =$ _____
- (64) The sum of the coefficients of $(a - b)^2$ is _____
- (65) $(\sin 30^\circ)(\cos 60^\circ) =$ _____
- (66) The slope of the line containing the points $(-1, 1)$ and $(2, -2)$ is _____
- (67) $4 \cos^2 45^\circ + 4 \sin^2 45^\circ =$ _____
- (68) Find k , $0 \leq k \leq 7$ if $\frac{(5!)(3!)}{(4!)} \equiv k \pmod{8}$. _____
- (69) The volume of a sphere with radius 3 is $k\pi$ cubic inches. $k =$ _____
- *(70) $17^3 =$ _____
- (71) The n -th term of 3, 7, 11, 15, ... is _____
- (72) If $f(x) = 3x^2 - 4x + 2$, then $f'(5) =$ _____
- (73) If $f(x) = x^2 - 8x + 15$, then $f'(-1) =$ _____
- (74) $4(4!) - 3(3!) - 2(2!) - 1(1!) =$ _____
- (75) The smallest value of x in the domain of $f(x)$ so that $f(x) = \sqrt{x^3 - 1}$ has a real valued range is _____
- (76) If $g(x) = x^3 - 3x - 3$, then $g'(-3) =$ _____
- (77) $\int_0^1 x^4 dx =$ _____
- (78) $\frac{1}{12} - \frac{1}{20} - \frac{1}{30} =$ _____
- (79) $f(x) = x + \frac{1}{x}$ has _____ asymptotes
- *(80) $\pi^2 \times \pi^3 \times e =$ _____