

Number Sense Exam 021, 4/13/2017

- (1) $2010 \div 5 =$ _____
- (2) $33^2 =$ _____
- (3) $5183 - 2015 =$ _____
- (4) $242 \div 9 =$ _____
- (5) $3.2 \times 2.3 =$ _____ (decimal)
- (6) $\frac{8}{9} + \frac{10}{11} =$ _____ (mixed number)
- (7) $21 \times 12 =$ _____
- (8) $1234 \div 9 =$ _____ (mixed number)
- (9) $3 \times 6 - 9 + 4 \div 2 =$ _____
- *(10) $308 + 2015 + 5102 + 513 =$ _____
- (11) The additive inverse of $-\frac{1}{3}$ is _____
- (12) The GCD of 28 and 82 is _____
- (13) Which is larger: $\frac{9}{13}$ or $\frac{7}{11}$? _____
- (14) DCIX = _____ (Arabic Numeral)
- (15) Which is smaller: $\frac{7}{17}$ or $\frac{9}{19}$? _____
- (16) If 1 gram = .04 oz., then 4 oz. = _____ grams
- (17) The greatest prime number less than 99 is _____
- (18) $2 + 5 + 8 + \dots + 29 =$ _____
- (19) $43^2 =$ _____
- *(20) $1357 \times 2468 =$ _____
- (21) How many integers between 7 and 59 are divisible by 8? _____
- (22) If $f(x) = 4x^2 + 28x + 49$ then $f(19) =$ _____
- (23) 160 plus 70% of 160 is _____
- (24) If $A = 1$, $B = -A$, and $C = A - B$,
then $ABC =$ _____
- (25) The slope of the line $6x + y = 2$ is _____
- (26) The number of positive integral divisors of 48 is _____
- (27) If $x + y = 5$ and $y - x = 3$, then $y =$ _____
- (28) If $x + 5 = 4$, then $x - 3 =$ _____
- (29) $9\frac{1}{3} \times 3\frac{1}{3} =$ _____ (mixed number)
- *(30) $12 \times 24 \times 36 =$ _____
- (31) The next term in the geometric sequence,
 $\dots, \frac{2}{5}, \frac{1}{4}, \frac{5}{32}, \dots$ is _____
- (32) $15\frac{1}{5} \times 5\frac{1}{5} =$ _____
- (33) $45 \times 85 =$ _____
- (34) $14 \times 212 =$ _____
- (35) $\frac{a}{6}$ has a remainder of 4; $\frac{b}{6}$ has a remainder of 5;
 $\frac{ab}{6}$ has a remainder of _____
- (36) $63^2 + 24^2 =$ _____
- (37) If $|2x - 4| = 10$ and $x < 0$, then $x =$ _____
- (38) The sum of the roots of $2x^2 - 3x + 1 = 0$ is _____
- (39) The product of the roots of
 $(2x - 3)(x - 6) = 0$ is _____
- *(40) $47961 \div 219 =$ _____
- (41) The smallest leg of a right triangle with integral sides is 7". The hypotenuse is _____ inches
- (42) If $7^x = 24$, then $7^{(x-1)} =$ _____
- (43) If $a^3 \times a^4 \div a^5 = a^k$, then $k =$ _____
- (44) The length of an arc formed by a central angle of 60° is 4π . The radius of the circle is _____

- (45) $\frac{7}{12} - \frac{27}{49} =$ _____
- (46) The sum of the product of the roots taken three at a time of $x^4 - 2x^3 - 13x^2 + 14x - 24$ is _____
- (47) If $8^{(x+1)} = 24$, then $8^{(x+2)} =$ _____
- (48) If $\sqrt{4x - 11} = 5$ then $x =$ _____
- (49) Find the units digit of 13^7 . _____
- *(50) $24^3 \times 21^2 \div 4^4 =$ _____
- (51) The largest palindrome less than 402 is _____
- (52) The number of distinct diagonals of a convex decagon is _____
- (53) ${}_5P_2 - {}_5C_3 =$ _____
- (54) The radius of the circle $x^2 + y^2 = 25$ is _____
- (55) The smaller root of $5x^2 - 7x - 6 = 0$ is _____
- (56) $81 + 54 + 36 + 24 + \dots =$ _____
- (57) Set P has 3 elements. The Cartesian product of set P and Q contains 12 ordered pairs. How many elements are in Q ? _____
- (58) $44_8 \times 4_8 =$ _____ 8
- (59) $\sin\left(\frac{5\pi}{4}\right) \times \cos\left(\frac{5\pi}{4}\right) =$ _____
- *(60) $26 \times 35 + 24 \times 75 =$ _____
- (61) $.75\pi$ radians = _____ degrees
- (62) $83^2 =$ _____
- (63) $2 \sin 15^\circ \cos 75^\circ =$ _____
- (64) The greatest integer function $f(x) = [x^2]$ has a value of _____ for $f(e)$
- (65) On the graph $y = 3 \cos(x-2) + 4$, the vertical shift is _____
- (66) If $\ln(12) = \ln(4) + k \ln(27)$, then $k =$ _____
- (67) $\frac{5!}{2! + 3!} \equiv x \pmod{7}$, and $0 \leq x \leq 6$. $x =$ _____
- (68) $(\sin 135^\circ)(\cos 135^\circ)(\tan 135^\circ) =$ _____
- (69) $(10 + 7)^2 + (10^2 - 7^2) =$ _____
- *(70) $\pi^3 \times 111 =$ _____
- (71) If $f(x) = 5x^3 + 4x^2$, then $f''(-2) =$ _____
- (72) $\int_{-1}^1 x^3 dx =$ _____
- (73) $i^{66} =$ _____
- (74) If $f'(x) = 4x$, $f(x) = ax^2 + b$, find a . _____
- (75) $2^3 + 3^3 + 4^3 - 5^3 =$ _____
- (76) $\lim_{x \rightarrow \infty} \left(\frac{(2x+1)(x-4)}{(x+3)(3x+1)} \right) =$ _____
- (77) The largest value of k such that ${}_6C_k = 15$ is _____
- (78) $\lim_{x \rightarrow 3} \left(\frac{x^2 + x - 1}{x - 3} \right) =$ _____
- (79) $16 \times 625 =$ _____
- *(80) $15 \times 31 + 16 \times 32 =$ _____