

Number Sense Exam 017, 3/14/2017

- (1) $313 \times 13 =$ _____
- (2) $1283 \div 4 =$ _____ (decimal)
- (3) $12 \times 13 + 17 - 11$ _____
- (4) $65 \times 85 =$ _____
- (5) $572 \div 9 =$ _____ (mixed number)
- (6) $\frac{2}{7} + 2\frac{1}{8} =$ _____ (mixed number)
- (7) $20.06 + 2.007 =$ _____ (decimal)
- (8) $2 + 3 \times 5 - 7 =$ _____
- (9) $\frac{3}{5} \div \frac{9}{25} =$ _____
- *(10) $2009 \times 6 - 2009 =$ _____
- (11) 45% of 45 is _____
- (12) $DCIV \times IV =$ _____ (Arabic Numeral)
- (13) $|5 - 9| - 2|4 - 2| + |-1 - 3| =$ _____
- (14) $7 + 12 + 17 + 22 + \dots + 52 + 57 =$ _____
- (15) $\frac{3^4}{(2^3)(5^3)} =$ _____ (decimal)
- (16) $15^2 =$ _____
- (17) 1.4 is what % of 20? _____ %
- (18) 21 is _____ % less than 35
- (19) The LCM of 52 and 78 is _____
- *(20) $453 + 231 \times 786 =$ _____
- (21) 30 more than 40% of 50 is _____
- (22) $.121212\dots + .151515\dots =$ _____
- (23) The set $\{f, o, r, t, y\}$ has _____ 4-element subsets
- (24) How many integers between 1 and 20 are relatively prime to 20? _____
- (25) Find the simple interest on \$1500 at 1.5% for 15 months. \$ _____
- (26) $\{s, l, o, p, e\} \cap \{l, i, n, e\}$ has _____ distinct elements
- (27) $8\frac{1}{8} \times 16\frac{1}{8} =$ _____ (mixed number)
- (28) If $2.222\dots \times k = 1$, then $k =$ _____
- (29) $42 \div 6 + 8 \times 3 - 2 =$ _____
- *(30) $13 \times 13 \times 13 \times 13 =$ _____
- (31) If $\frac{1}{2} + \frac{1}{x} = \frac{2}{3}$, then $x =$ _____
- (32) $3 + 6 + 9 + 15 + 24 + \dots + 102 + 165 =$ _____
- (33) $9^3 =$ _____
- (34) If $3x + 5 = 1$, then $6x - 1 =$ _____
- (35) $75 \times 284 =$ _____
- (36) The roots of a cubic equation are 1, 2, and 3. The equation is $x^3 - 6x^2 + 11x =$ _____
- (37) Let $5x - 3 = 1$ then $4x + 2 =$ _____
- (38) If $x = 5$ and $y = 3$, then $9x^2 - 6xy + y^2 =$ _____
- (39) The set $\{T, W, O\}$ has _____ proper subsets
- *(40) $\sqrt{122015} =$ _____
- (41) $34^2 - 21 \times 55 =$ _____
- (42) Find the harmonic mean of 2 and 5. _____
- (43) If $2x + 3 = 4$, then $5x - 6 =$ _____
- (44) An interior angle of a regular octagon has a measure of _____ degrees
- (45) $32 \div .181818\dots =$ _____

- (46) The slope of the line passing through the points $(5, -2)$ and $(-1, 4)$ is _____
- (47) $15 \times 4! - 5!$ = _____
- (48) If $A^4 \div A^7 \times A^k = A^5$, and $A > 1$, then $k =$ _____
- (49) The sum of the product of the roots taken two at a time of $2x^3 - 3x^2 - 4x + 5 = 0$ is _____
- *(50) The volume of a cylinder with a radius of $3''$ and a height of $4''$ is _____ cu. in.
- (51) The sum of the coefficients in the binomial expansion of $(3x + 4y)^3$ is _____
- (52) If $44_b = 40$, then $b =$ _____
- (53) $131 \times 212 =$ _____
- (54) $\left(\frac{x^2 - 6x + 9}{x - 3}\right) \left(\frac{x^2 + 6x + 9}{x^2 - 9}\right) = x +$ _____
- (55) If y varies inversely with x and $x = 4$ when $y = 3$, find x when $y = 8$. _____
- (56) If $\log_k 32 = 5$, then $k =$ _____
- (57) $33 \times 32 =$ _____
- (58) How many ordered pairs are in the Cartesian product of (a, b) and (a, b, c) ? _____
- (59) If two dice are rolled, the probability that the sum of the faces is greater than 10 is _____
- *(60) $(3.1\pi)(2.7e) \left(\frac{1 + \sqrt{5}}{2}\right) =$ _____
- (61) The volume of a sphere with radius 3 is $k\pi$ and $k =$ _____
- (62) $5^6 \div 4$ has a remainder of _____
- (63) 15 miles per hour = _____ feet per second
- (64) If $x > 0$ and $x + 1 = \sqrt{x^2 - 3x + 11}$, then $x =$ _____
- (65) The sum of the coefficients of $(x - y)^3$ is _____
- (66) Change $0.3222\dots_7$ to a base 7 fraction _____
- (67) $(31_5 - 12_5) \times 11_5 =$ _____ ₅
- (68) $g(x) = x^2 + 1$ and $h(x) = 1 - x^2$, then $g(h(2)) =$ _____
- (69) The greatest integer function is written as $f(x) = [x]$. Find $f(1 - 2\pi)$. _____
- *(70) $7e^2 \times 9\pi^2 =$ _____
- (71) How many groups of 3 people can be made from 7 people? _____
- (72) $1^3 + 2^3 + 3^3 + 4^3 + 5^3 =$ _____
- (73) If $f(x) = 4 - 3x$, then $f^{-1}(2) =$ _____
- (74) The greatest integer function is written as $f(x) = [x]$. Find $[\sqrt{6} + \sqrt{7}]$. _____
- (75) $1^3 + 2^3 + 3^3 + \dots + 10^3 =$ _____
- (76) $444 \times \frac{2}{27} =$ _____ (mixed number)
- (77) The largest value of k such that ${}_6C_k = 15$ is _____
- (78) Change $\frac{17}{36}$ to a base 6 decimal. _____
- (79) $i^{66} =$ _____
- *(80) $658 \div 16\frac{2}{3}\% \times .333\dots =$ _____