

Number Sense Exam 061, 3/2/2018

- (1) $33^2 =$ _____
- (2) $18 \times 13 =$ _____
- (3) $14 \times 41 =$ _____
- (4) $2007 + 2008 =$ _____
- (5) The negative reciprocal of .6 is _____
- (6) .075 = _____ (fraction)
- (7) $3\frac{1}{4}\%$ = _____ (decimal)
- (8) $2013 - 201 + 13 =$ _____
- (9) $\frac{1}{16} =$ _____ (decimal)
- *(10) $92 + 292 + 9292 =$ _____
- (11) 2.7 is _____ % (decimal) of 25.
- (12) $\text{MMVIII} - \text{MIV} =$ _____ (Arabic Numeral)
- (13) 225 is 150% of _____
- (14) $\text{LCM}(35, 55) \times \text{GCD}(35, 55) =$ _____
- (15) $3\frac{3}{4} + 3\frac{7}{8} =$ _____ (mixed number)
- (16) The multiplicative inverse of $0.444\dots$ is _____
- (17) $214 \times 16 =$ _____
- (18) $3\frac{1}{6} - 1\frac{3}{4} =$ _____ (mixed number)
- (19) $1 + 3 + 6 + 10 + 15 + 21 =$ _____
- *(20) $333 \times 426 =$ _____
- (21) Six tablespoons is _____ % of a cup
- (22) $135_7 =$ _____ ₁₀
- (23) Set $A = \{m, e, a, n\}$, $B = \{m, e, d, i, a, n\}$, and $C = \{m, o, d, e\}$. $(A \cup C) \cap B$ contains how many distinct elements? _____
- (24) The multiplicative inverse of 7 is _____
- (25) $1 - |3 - 6| - |10 - 15| - 21 =$ _____
- (26) $(7^3 + 8^2 - 9^1) \div 6$ has a remainder of _____
- (27) $756453 \div 4$ has a remainder of _____
- (28) $7.777\dots - 3.333\dots =$ _____
- (29) $101110_2 =$ _____ ₈
- *(30) $\sqrt{124} \times \sqrt{626} =$ _____
- (31) If $3x + 4 = 5$, then $x^2 =$ _____
- (32) If $4x - 7 = 11 - 2x$, then $x =$ _____
- (33) $15^2 + 45^2 =$ _____
- (34) Find the slope of the line parallel to the line $4x + 7y = 3$. _____
- (35) $375 \times 408 =$ _____
- (36) 44 base 10 is equivalent to _____ base 4
- (37) $104 \times 112 =$ _____
- (38) 14 cups is what percent of a quart? _____ %
- (39) $5\frac{1}{4} \times 5\frac{3}{4} =$ _____ (mixed number)
- *(40) $42\frac{6}{7} \times 349 \div 19 =$ _____
- (41) $314_5 \times 4_5 =$ _____ ₅
- (42) If P is $\frac{2}{3}$ of Q and Q is $33\frac{1}{3}\%$ of R , then P is what percent of R ? _____ %
- (43) If $32^x = 128$, then $x =$ _____
- (44) If P is 40% of Q and Q is 60% of R , then P is what percent of R ? _____ %
- (45) $537 \times 101 =$ _____

- (46) $45 \times 16 - 24 \times 30 =$ _____
- (47) If $x + y = -1$ and $xy = 2$ then $x^3 + y^3 =$ _____
- (48) $30 \times 11 + 22 \times 15 =$ _____
- (49) The next term of 48, 32, 24, 20, 18, ... is _____
- *(50) $\sqrt{96721} =$ _____
- (51) $i^16 =$ _____
- (52) The next term of the geometric sequence $-2.5, 1, -\frac{2}{5}, \dots$ is _____ (decimal)
- (53) $(1 + i)^2 = a + bi$, then $b =$ _____
- (54) ${}_5P_3 \div {}_5C_4 =$ _____
- (55) $12 + 6 + 3 + \dots =$ _____
- (56) 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 _____
- (57) $33 \times 32 =$ _____
- (58) An obtuse triangle has integer sides of 5, x , and 9. The smallest value of x is _____
- (59) $(2 + 7i)(2 - 7i) = a + bi$. Find $a + b$. _____
- *(60) 13^4 _____
- (61) If $\cos 47^\circ = \cos A$, $A \in QIV$ and $A < 360^\circ$, then $A =$ _____ $^\circ$
- (62) $\cos[\sec^{-1}(1.3)] =$ _____
- (63) The greatest integer function $f(x) = [3x + 1]$ has a value of _____ for $f(e)$
- (64) The slope of the line parallel to the line $5x - 4y + 3 = 0$ _____
- (65) The sum of the positive integral divisors of 45 is _____
- (66) $\log_9(\log_2 8) =$ _____
- (67) How many 3-element subsets does a 5-element set contain? _____
- (68) The greatest integer functions $g(x) = [2x - 7]$ has a value of _____ for $g(\sqrt{7})$
- (69) $2 \cos^2 30^\circ - 1 =$ _____
- *(70) $(1 + 2 + 3 + \dots + 29)^2 =$ _____
- (71) $122_7 \div 5_7 =$ _____ $_7$
- (72) Change .43 base 6 to a base 10 fraction. _____ $_{10}$
- (73) The dot product of $v = (2, 6)$ and $u = (1, 2)$ is _____
- (74) If $f(x) = 4x - 3$, then $f^{-1}(2) =$ _____
- (75) If $f(x) = x^2 - 1$ and $x > 0$, then $f^{-1}(8) =$ _____
- (76) The ratio of x to y is 4 to 7. If $x - y = -15$, then $x + y =$ _____
- (77) The horizontal asymptote for $f(x) = \frac{2x - 1}{x}$ is $y =$ _____
- (78) How many regions in a plane are determined by 7 lines, no 2 are parallel and no 3 are concurrent? _____
- (79) $\sum_0^2 (1 - 3x) =$ _____
- *(80) The surface area of a sphere with a diameter of 24 inches is _____ sq. inches.