

Number Sense Exam 044, 9/30/17

- (1) $1 + 2 \times 3 - 4 \div 5 =$ _____
- (2) $12 - 8 \div 4 \times 2 - 3 =$ _____
- (3) $26 \times 42 + 34 \times 42 =$ _____
- (4) $2\frac{13}{25} =$ _____ %
- (5) $354 - 289 =$ _____
- (6) $2013 - 3102 =$ _____
- (7) $\frac{8}{9} + \frac{10}{11} =$ _____ (mixed number)
- (8) $7002 - 2007 =$ _____
- (9) $16.24 \div .8 =$ _____
- *(10) $44 + 444 + 4444 + 44444 =$ _____
- (11) 128 ounces = _____ cups
- (12) The average of 23, 57, and 11 is _____
- (13) The GCD of 54, 48, and 32 is _____
- (14) If 6 oranges cost \$1.32 then 11 oranges cost \$ _____
- (15) 2 feet 8 inches + 1 foot 10 inches = _____ yards
- (16) $16 \times 7 - 14 \times 32 =$ _____
- (17) $3 + 7 + 11 + 15 + 19 + \dots + 35 =$ _____
- (18) $13 \times 19 =$ _____
- (19) MCMLI = _____ (Arabic Numeral)
- *(20) $412 \times 1861 =$ _____
- (21) $3 + 7 + 10 + 17 + \dots + 71 + 115 =$ _____
- (22) The set $\{f, i, v, e\}$ has _____ proper subsets
- (23) A 3-element set has _____ improper subsets
- (24) If $A = 3$, $B = 5$, and $C = B$, then $BC + A =$ _____
- (25) If 4 pens cost \$2.84, then one dozen pens cost \$ _____
- (26) $21^2 - 19^2 =$ _____
- (27) $9.111\dots - 3.333\dots =$ _____
- (28) If 4 pens cost \$1.64, then 2 dozen pens cost \$ _____
- (29) $123 \times 14 =$ _____
- *(30) $\sqrt{1234} \times 56 =$ _____
- (31) Let $A = \{l, y, n, d, a\}$ and $B = \{d, o, y, c, e\}$, then $A \cup B$ has how many elements? _____
- (32) Find k if $78^2 - 72^2 = 6k$. $k =$ _____
- (33) If $x = 9$ and $y = 3$, then $x^2 - 6xy + 9y^2 =$ _____
- (34) $123 \times 14 =$ _____
- (35) If $P = 2$, $Q = -2$, and $R = 4$, then $PQ + R =$ _____
- (36) If $x = 8$ and $y = 4$ then $4x^2 + 4xy + y^2 =$ _____
- (37) If $4x - 6 = 7x + 12$, then $x =$ _____
- (38) $(1000 + 1001) \div 9$ has a remainder of _____
- (39) The cube root of 1225043 is _____
- *(40) $\sqrt{172839} =$ _____
- (41) The next term of 2, 3, 4, 6, 6, 9, ... is _____
- (42) The largest integer x such that $5x - 7 \leq -9$ is _____
- (43) The cube root of 389017 is _____
- (44) $\frac{7}{12} + \frac{5}{7} =$ _____ (mixed number)
- (45) $45 \times 95 =$ _____
- (46) Find the units digit of 17^6 . _____
- (47) $124 \times 142 =$ _____
- (48) If $(2x + 3)^2 = 14$, then the sum of the roots is _____

- (49) If $x + y = 4$ and $xy = 2$, then $x^3 + y^3 =$ _____
- *(50) $789123 \div 456 =$ _____
- (51) $311 \times 122 =$ _____
- (52) The largest palindrome less than 752 is _____
- (53) $12 + 6 + 3 + \dots =$ _____
- (54) $(1 + i)^6 =$ _____
- (55) The simplified coefficient of the xy term in the expansion of $(2x - y)^2$ is _____
- (56) $\sin(5\pi) + \cos(5\pi) =$ _____
- (57) The vertex of the parabola $y = x^2 - 2x - 3$ is (c, d) .
 $c =$ _____
- (58) $\frac{7! + 3!}{5!} =$ _____ (mixed number)
- (59) If $\log_8 k = \frac{1}{3}$, then $k =$ _____
- *(60) $67 \times 71 \times 73 =$ _____
- (61) $\tan(\tan^{-1}.6) =$ _____ (fraction)
- (62) Change $0.3222\dots_7$ to a base 7 fraction _____
- (63) $\tan[\cot^{-1}\left(\frac{4}{3}\right)] =$ _____
- (64) $\frac{3}{2} + \frac{3}{4} + \frac{3}{8} + \dots =$ _____
- (65) The volume of a right cylinder with a radius of $6''$ and a height of $9''$ is _____ π cu. in.
- (66) $\cos^2\left(\frac{\pi}{6}\right) - \sin^2\left(\frac{\pi}{6}\right) =$ _____
- (67) Change $0.4666\dots_8$ to a base 10 fraction. _____
- (68) What is the smallest integral value for k such that $1k22$ is divisible by 6? _____
- (69) $\cos^2 30^\circ - \sin^2 30^\circ =$ _____
- *(70) $(1 + 3 + 5 + 7 + \dots + 25)^2 =$ _____
- (71) $222 \times \frac{1}{27} =$ _____ (mixed number)
- (72) If $h(x)$ is the slant asymptote of $f(x) = \frac{x^2 - 3x + 1}{x - 3}$, then $h(1) =$ _____
- (73) The graph of $f(x) = 2^{(x-2)}$ has a horizontal asymptote at $y =$ _____
- (74) Let $\frac{7!}{5!} = \frac{x!}{(x-1)!}$. Find x . _____
- (75) $\lim_{x \rightarrow \infty} \left(\frac{4x - 9}{3x + 10}\right) =$ _____
- (76) Change 0.31 base 4 to a base 10 fraction. _____
- (77) Let $2x + 1 \equiv 4 \pmod{5}$, $2 \leq x \leq 5$. Find x . _____
- (78) Change $.52$ to a base 5 decimal. _____ ₅
- (79) If $f(x) = 3x^2 - 4x - 8$, then $f[f^{-1}(2)] =$ _____
- *(80) The simple interest on \$3750 at 2.5% for 1.25 years is _____ dollars (integer)