

Number Sense Exam 014, 3/3/2016

- (1) $29 \times 11 =$ _____
- (2) $\frac{7}{80} =$ _____ % (decimal)
- (3) $44 \times 75 =$ _____
- (4) $12 \times 22 + 16 \times 22 =$ _____
- (5) $1234 \div 9 =$ _____ (mixed number)
- (6) $61 \times 16 =$ _____
- (7) $8 \div 5 + 11 \times 2 - 14 =$ _____
- (8) $2006 \div 9 =$ _____ (mixed number)
- (9) $.3 + 70\% - \frac{1}{2} =$ _____ (fraction)
- *(10) $135 + 246 + 789 =$ _____
- (11) The additive inverse of $|-5|$ is _____
- (12) $31 \times \frac{31}{35} =$ _____ (mixed number)
- (13) If 12 ounces of pickles cost \$1.25, then 3 pounds of pickles will cost \$ _____
- (14) $113 \times 107 =$ _____
- (15) $CDXLIV + MDLXIX =$ _____ (Arabic Numeral)
- (16) What is 27% of 27? _____ (decimal)
- (17) $CDXLIV + MDLXIX =$ _____ (Arabic Numeral)
- (18) 16% of 20 = _____
- (19) $(-3)(-6) - (-7) - (-4)(8) =$ _____
- *(20) $123456 \div 789 =$ _____
- (21) 45 is $2\frac{1}{2}\%$ of _____
- (22) 210 has how many positive prime divisors? _____
- (23) $4^{3/2} =$ _____
- (24) The number of positive integral divisors of $5^3 \times 3^2 \times 2^1$ is _____
- (25) How many positive integral divisors does 64 have? _____
- (26) $4^{(-2)} + 4^{(-3)} =$ _____
- (27) 40 base 5 is equivalent to _____ base 8
- (28) $|1 - 3| - |6 + 10| + |15 - 21| =$ _____
- (29) $2 + 1 + 3 + 4 + 7 + \dots + 29 =$ _____
- *(30) $23 \times 31 \times 249 =$ _____
- (31) How far will a train travel in 2 hours and 5 minutes at a rate of 144 mph? _____ miles
- (32) $9^3 =$ _____
- (33) $\frac{5! - 3!}{4!} =$ _____ (mixed number)
- (34) If the perimeter of a square is 12.8 cm, then the area of the square is _____ sq. cm.
- (35) $(4^4 + 3^3 \times 2^2) \div 5$ has a remainder of _____
- (36) $\sqrt{4 - \sqrt{2 + \sqrt{x - 1}}} = 1$, then $x =$ _____
- (37) Set A has 5 elements, set B has 6 elements, and $A \cup B$ has 7 elements. $A \cap B$ has _____ elements.
- (38) $770 \times 13 =$ _____
- (39) 36% of _____ is 12% of 210.
- *(40) $\sqrt{20164} =$ _____
- (41) Let $a^3 \div a^4 \div a^5 = a^k$, where $a > 1$. $k =$ _____
- (42) The radius of the circle $x^2 + y^2 + 2x + 6y = 6$ is _____
- (43) The point $(2, 7)$ is reflected across the y -axis to point (h, k) . Find h . _____

- (44) If $2^{3.14} = 8.82$, then $2^{2.14} =$ _____
- (45) Find the units digit of 18^6 . _____
- (46) If the height of an equilateral triangle is $12''$, then its area is $4k\sqrt{3}$ sq. in. Find k . _____
- (47) Let $3x - y = 1$ and $x - 2y = 2$. Find y . _____
- (48) If $xy = 1$ and $x + y = 2$, then $x^3 + y^3 =$ _____
- (49) If a $4''$ by $6''$ picture is enlarged to $6''$ by $10''$, its area is multiplied by _____
- *(50) $14.2857 \times 348 =$ _____
- (51) $\sin\left(\frac{5\pi}{4}\right) \times \cos\left(\frac{5\pi}{4}\right) =$ _____
- (52) Find the smallest number greater than 4 that divides 572. _____
- (53) The sum of the coefficients of the expansion of $(4x - y)^3$ is _____
- (54) $U = \{x \mid -8 < x < 6, x \in \{\text{Odd Integers}\}\}$ is the universal set and $\{-3, 3\} \in U$. How many elements are in $\{-3, 3\}'$? _____
- (55) $\frac{6! + 2!}{4!} =$ _____ (mixed number)
- (56) If two dice are rolled, the odds that the sum of the faces is 2, 3, or 12 is _____
- (57) The number of distinct diagonals of a convex decagon is _____
- (58) If $3^x = 1.2$ then $9^x =$ _____
- (59) The eleventh term of $6, 11, 16, 21 \dots$ is _____
- *(60) $26 \times 35 + 24 \times 75 =$ _____
- (61) If $\log_b 2 = .25$ and $\log_b x = 1$, then $x =$ _____
- (62) Two dice are tossed. What is the probability that the sum is eight? _____
- (63) The slope of the line $4x - 5y = 6$ is _____
- (64) If $f(x) = [x - 2.4]$ is the greatest integer function, then the value of $f(8.1)$ is _____
- (65) $49^2 + 49 =$ _____
- (66) Change $0.4777\dots_8$ to a base 10 fraction. _____
- (67) $\frac{4}{7} - \frac{15}{29} =$ _____
- (68) How many ways can Snow White and the seven dwarfs be seated at the round table? _____
- (69) A box contains black, red, blue, and green pens. How many different sets of 3 pens can be packaged? _____
- *(70) The area of $40x^2 + 45y^2 = 1800$ is _____
- (71) The vertical displacement of $y = 5 \cos 4(x + 3) - 2$ is _____
- (72) The horizontal asymptote of $y = \frac{2x^2 - 1}{3x^2 + 2}$ is $y =$ _____
- (73) If $f(x) = 3x^4 - 2x^3 + x^2$, then $f''(1) =$ _____
- (74) Change $.33$ base 6 to a base 10 fraction. _____
- (75) Five coins are tossed. What is the probability of getting 2 tails and 3 heads? _____
- (76) If $f(x) = \sqrt{3 + 4x}$, where $x, f(x) \in \{\text{Real}\}$, then the range of $f(x)$ is $\{f(x) \mid f(x) \geq \text{_____}\}$
- (77) $\int_0^3 x^2 dx =$ _____
- (78) Find $x, 0 \leq x \leq 3$ if $24^2 \equiv x \pmod{5}$. _____
- (79) $f(x) = x^4 + 4x^3 + 6x^2 + 4x + 1$, find $f'(1)$. _____
- *(80) $863 \div 6.25\% \times \frac{1}{2} =$ _____