

Number Sense Exam 015, 3/6/2017

- (1) $20 \times (1 - 4) + 12 \div 6 =$ _____
- (2) $3\frac{1}{5}\%$ = _____ (proper fraction)
- (3) $\$20.02 - \$70.07 = \$$ _____
- (4) The LCM of 84 and 63 is _____
- (5) $235 \div 9$ has a remainder of _____
- (6) $42\frac{6}{7}\%$ of 35 = _____
- (7) $3\frac{1}{2} + 20\frac{1}{5} =$ _____ (mixed number)
- (8) $25 \times 42 =$ _____
- (9) $243 \times 25 =$ _____
- *(10) $41 \times 411 + 4111 =$ _____
- (11) The median of 2, 8, 4, 3, 7, 5, and 9 is _____
- (12) $15^2 =$ _____
- (13) $\frac{1}{4} - \frac{1}{8} - \frac{1}{12} =$ _____ (proper fraction)
- (14) $CXI + XLIV =$ _____ (Arabic Number)
- (15) 64 is what % more than 48? _____ %
- (16) $57 \times 57 =$ _____
- (17) $\frac{13}{40} =$ _____ % (decimal)
- (18) 45% of 45 is _____
- (19) The GCD of 54, 48, and 32 is _____
- *(20) $8 \times 15 \times 1947 =$ _____
- (21) $.08333\dots + .1666\dots + .25 =$ _____
- (22) $30603 \div 101 =$ _____
- (23) The number of positive integral divisors of 160 is _____
- (24) $3 + 7 + 10 + 17 + \dots + 71 + 115 =$ _____
- (25) 200 base 10 equals _____ base 7
- (26) $24\frac{1}{8} \times 8\frac{1}{8} =$ _____ (mixed number)
- (27) If one dozen eggs cost \$2.40, then 2.5 dozen eggs cost \$ _____
- (28) $(7^3 + 8^2 - 9^1) \div 6$ has a remainder of _____
- (29) If $\frac{5}{8} = \frac{x}{5}$, then $x =$ _____ (decimal)
- *(30) 87% of 789 = _____
- (31) The roots of $x^3 + kx^2 - 13x + 12 = 0$ are -4, 1, and 3. Find k . _____
- (32) The cube root of 10648 is _____
- (33) Find the smallest digit k such that 26480 k is divisible by 6. $k =$ _____
- (34) $3 \times 2! + 4 \times 3! + 5 \times 4! =$ _____
- (35) If $2x - 3y = 8$ and $x + y = 4$, then $y =$ _____
- (36) $96 \times 103 =$ _____
- (37) The set $\{T, W, O\}$ has _____ proper subsets
- (38) $\left(4\frac{1}{2}\right)^2 =$ _____ (mixed number)
- (39) Given $9248 \div 34 = 272$. Find $9248 \div 8\frac{1}{2}$. _____
- *(40) $33 \times 44 \times 55 =$ _____
- (41) If $x + y = 2$ and $xy = 2$ then $x^3 + y^3 =$ _____
- (42) $72 \times .08333\dots =$ _____
- (43) The smallest integer x such that $1 - x < 7$ is _____
- (44) If A is 20% more than B and B is 10% less than C , then A is _____ % more than C .

- (45) A right triangle has integral sides. If one leg is 13 then the other leg is _____
- (46) Find the units digit of 18^6 . _____
- (47) One leg of a right triangle is 40 and the hypotenuse is 41. The length of the other leg is _____
- (48) If $x + y = 5$ and $xy = 2$, then $x^3 + y^3 =$ _____
- (49) $92 \times 97 =$ _____
- *(50) $654 \log 987 =$ _____
- (51) $(i)^{36} =$ _____
- (52) ${}_5P_3 =$ _____
- (53) The legs of a right triangle are 5 and 12. The length of the altitude to the hypotenuse is _____
- (54) $54 + 18 + 6 + 2 + \dots =$ _____
- (55) $(3i)^2 + (2i)^6 =$ _____
- (56) $108 \times 107 =$ _____
- (57) $55 \div 1.666\dots =$ _____
- (58) The integral sides of a triangle are 11, 14, and x . The largest value of x is _____
- (59) The probability of winning is 60%. The odds of losing is _____
- *(60) $48 \times 49 \times 50 =$ _____
- (61) $\cos^2(45^\circ) - \sin^2(45^\circ) =$ _____
- (62) If $h(x) = 4x^2 - 2x - 1$, then $h\left(h\left(\frac{1}{2}\right)\right) =$ _____
- (63) Find x , $0 \leq x \leq 4$, if $2x + 3 \equiv 2 \pmod{5}$. _____
- (64) If $\log_4 8 = y$ then $y^2 - 1.25 =$ _____
- (65) How many minutes will pass from 9:15pm to 2:00am the next day? _____ minutes
- (66) $76^2 =$ _____
- (67) $\det \begin{bmatrix} -1 & -6 \\ 3 & 10 \end{bmatrix} =$ _____
- (68) M varies inversely with N^2 and $M = 3$ when $N = 5$. If $N = 10$ then $M =$ _____
- (69) How many ways can Romeo and Juliet sit in a row of four chairs? _____
- *(70) $323502 \div 1238 =$ _____
- (71) $(909)^2 =$ _____
- (72) 267419 divided by 11 has a remainder of _____
- (73) Change .12 base 5 to a base 10 decimal. _____
- (74) The first four digits of the decimal for $\frac{16}{90}$ is 0. _____
- (75) $(x^3 + 2x^2 - x + 1) \div (x + 1)$ has a remainder of _____
- (76) $g(x) = x^4 - 3x^2 + 5x - 7$. $g'(1) =$ _____
- (77) Let $f(x) = \sqrt{3 - 4x}$ be a real valued function, where $x \in \{\text{Reals}\}$. The domain of $f(x)$ is $\{x \mid x \leq \text{_____}\}$
- (78) The distance between the lines $\sqrt{2}x + \sqrt{7}y = 2$ and $\sqrt{2}x + \sqrt{7}y = 5$ is _____
- (79) The sum of the first 10 terms of the Fibonacci characteristic sequence 2, 5, 7, 12, 19, ... is _____
- *(80) 4444 feet/second = _____ miles/hour