Number Sense Exam

(1) $2008 + 208 - 28 =$ _____

(2) $50 \times 200.8 =$ _____

(3) $\frac{2}{7} + 2\frac{1}{8} =$ _____ (mixed number)

(4) $\frac{7}{8} \div .2 =$ _____ (improper fraction)

(5) $(24 + 18) \div 12 \times (3 - 6) =$ _____

(6) $7.5\% =$ _____ proper fraction

(7) $15 \times 28 =$ _____

(8) $28 \div 11 + 82 \div 11 =$ _____

(9) $23^2 =$ _____

*(10) $41 \times 411 + 4111 =$ _____

(11) The largest prime divisor of 65 is _____

(12) $11 \div 1\frac{2}{3} =$ _____ (decimal)

(13) If 12 ounces of nuts costs \$1.25 them 3 pounds of nuts will cost \$_____

(14) 280 plus 30% of 320 is _____

(15) Whick is smaller, $1\frac{1}{3}$ or 1.3 ? _____

(16) 2ft. $\times$ 3ft. $\times$ 4ft. = _____ cubic yards

(17) $(34 + 65 + 96) \div 3$ has a remainder of _____

(18) The mode of $2, 8, 4, 8, 2, 4, 8, 4$ & 8 is _____

(19) MMVIII $-$ MIV = _____ (Arabic Numeral)

*(20) $987 - 654 \times 321 =$ _____

(21) If $A = 3$, $B = 5$, and $C = B$, then $BC + A =$ ___

(22) $7.777\ldots - 3.333\ldots =$ _____

(23) Find the simple interest on \$500.00 at 5% for five years. \$ _____

(24) $(4)^{-1} + (4)^{-2} =$ _____

(25) 6 pints is what percent of a gallon? _____ %

(26) Which of the following is a triangular number: $9, 15$, or 18? _____

(27) $\sqrt[3]{2197} =$ _____

(28) $\{s, l, o, p, e\} \cap \{l, i, n, e, \}$ has ___ distinct elements

(29) If $\frac{3}{4} = \frac{3x}{5}$, then $x =$ _____

*(30) $118 \times 118 - 19 \times 121 =$ _____

(31) $43_8 - 21_8 =$ _____ $_8$

(32) If $x - 3 = -4$, then $x + 3 =$ _____

(33) $1^2 + 1^2 + 2^2 + 3^2 + 5^2 + 8^2 =$ _____

(34) $(4^4 + 3^3 \times 2^2) \div 5$ has a remainder of _____

(35) $15\frac{1}{5} \times 5\frac{1}{5} =$ _____

(36) $|6 - |-3 - 6|| =$ _____

(37) The area of a rhombus is 135 in^2 and one diagonal is 18in. The other diagonal is _____ in

(38) If $a = 5$ and $b = 3$, then $(a - b)(a^2 + ab + b^2) =$ _

(39) If $x + 3y = 5$ and $x - 2y = 4$ then $y =$ _____

*(40) $\sqrt[3]{1730} \times \sqrt{142} \times 12 =$ _____

(41) $63 \div 1.75 =$ _____

(42) If $3^4 \times 3^k \div 3^5 = 3^2$ then $k =$ _____

(43) $212 \times 311 =$ _____

(44) The hypotenuse of a right triangle with integral sides is 41 in. The shortest leg is _____ in

(45) $45 \times 95 =$ _____

(46) (x, y) is the midpoint of the line segment whose endpoints are $(2, 5)$ and $(5, 9)$. $y =$ _____

(47) $31 \times 4! + 36 \times 3!$ _____

(48) The measure of an exterior angle of a regular n-gon is $18°$. $n =$ _____ sides

(49) $\frac{3}{14} =$ _____ %

*(50) $18^2 \div 9^3 \times 3^6 =$ _____

(51) Let $|2x + 3| \leq 11$. The least value of x is _____

(52) 18% of $266\frac{2}{3}$ is _____

(53) The vertex of the parabola $y = x^2 + 8x$ is (h, k). Find h. _____

(54) $\frac{7}{9} - \frac{19}{29} =$ _____

(55) If y varies inversely with x and $x = 4$ when $y = 3$, find x when $y = 8$. _____

(56) $61 \times 69 + 16 =$ _____

(57) $(k - 4\text{i})^2 = -7 - 24\text{i}$. Find k. _____

(58) ${}_6\text{C}_3 =$ _____

(59) The tenth term of $2, 7, 12, 17, \ldots$ is _____

*(60) $(24)^4 =$ _____

(61) If $\sqrt{12} + \sqrt{27} = \sqrt{x}$ then $x =$ _____

(62) If $\log_x 3 = .5$ then $x =$ _____

(63) The dot product for $u = (2, 1)$ and $v = (4, 3)$ is _____

(64) $f(x) = 5x^3 + 4x^2 + 3x - 2$ divided by $x + 1$ has a remainder of _____

(65) $\cos \frac{4\pi}{3} =$ _____

(66) If $A = \begin{bmatrix} 2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 3 \\ 2 \end{bmatrix}$ then $AB = [$ _____ $]$

(67) If $(\sqrt[4]{a^2})(\sqrt[3]{a}) = (\sqrt[n]{a^k})$, where n and k are relatively prime, then $n =$ _____

(68) $\sqrt{444889}$ _____

(69) The greatest integer function $f(x) = [x]$ has a value of _____ for $f(\pi)$

*(70) $(e\pi)^2 \times (\pi e)^2 =$ _____

(71) The larger root of $8x^2 + 25x + 3 = 0$ is _____

(72) The smallest value of x in the domain of $f(x)$ so that $f(x) = \sqrt{4x + 5}$ has a real valued range is _____

(73) The rectangular coordinates of the polar coordinates $(3\sqrt{2}, \frac{\pi}{4})$ are (x, y). $x =$ _____

(74) $\lim_{x \to 4} \left(\frac{x^2 + x - 20}{x - 4} \right) =$ _____

(75) If $f(x) = 3x^2 - 2x + 1$, then $f'(-4) =$ _____

(76) $\int_{-2}^{2} x^2 dx =$ _____

(77) If the initial point of a vector is $(3, 7)$ and the terminal point is $(-1, 4)$, then $||v|| =$ _____

(78) $111 \times 27 =$ _____

(79) $\frac{1}{3} + \frac{1}{6} + \frac{1}{10} + \frac{1}{15} =$ _____

*(80) $798 \div 44\frac{4}{9}\% \times .25 =$ _____

Number Sense Answer Key

(1) 2188

(2) 10040

(3) $2\frac{23}{56}$

(4) $\frac{35}{8}$

(5) $-10.5, -\frac{21}{2}, -10\frac{1}{2}$

(6) $\frac{3}{40}$

(7) 420

(8) 10

(9) 529

*(10) $19914 - 22010$

(11) 13

(12) 6.6

(13) \$5.00

(14) 376

(15) $1.3, \frac{13}{10}, 1\frac{3}{10}$

(16) $\frac{8}{9}$

(17) 0

(18) 8

(19) 1004

*(20) -219395–-198499

(21) 28

(22) $\frac{40}{9}, 4\frac{4}{9}$

(23) \$125.00

(24) $.3125, \frac{5}{16}$

(25) 75

(26) 15

(27) 13

(28) 2

(29) $1.25, \frac{5}{4}, 1\frac{1}{4}$

*(30) $11044 - 12206$

(31) 22

(32) 2

(33) 104

(34) 4

(35) $79.04, \frac{1976}{25}, 79\frac{1}{25}$

(36) 3

(37) 15

(38) 98

(39) $.2, \frac{1}{5}$

*(40) $1631 - 1802$

(41) 36

(42) 3

(43) 65932

(44) 9

(45) 4275

(46) 7

(47) 960

(48) 20

(49) $21\frac{3}{7}$

*(50) $308 - 340$

(51) -7

(52) 48

(53) -4

(54) $\frac{32}{261}$

(55) $1.5, \frac{3}{2}, 1\frac{1}{2}$

(56) 4225

(57) 3

(58) 20

(59) 47

*(60) $315188 - 348364$

(61) 75

(62) 9

(63) 11

(64) -6

(65) $-.5, -\frac{1}{2}$

(66) 12

(67) 6

(68) 667

(69) 3

*(70) $5053 - 5584$

(71) $-.125, \frac{1}{8}$

(72) $-1.25, -\frac{5}{4}, -1\frac{1}{4}$

(73) 3

(74) 9

(75) -26

(76) $\frac{16}{3}, 5\frac{1}{3}$

(77) 5

(78) 2997

(79) $\frac{2}{3}$

*(80) $427 - 471$