

Algebra II Homework #3

- 1) Simplify: $-2^3 - (-2 - 2)^2 - 18 \div 6(-1 - 2) - 8^0$
- 2) 5 belongs to which number groups?
- 3) Simplify: $\frac{-m - c^3}{-3x^2 - a}$ if $a = -6$, $c = -2$, $x = -3$, and $m = -5$
- 4) Simplify: $\frac{3^3}{18} \div \left(\frac{72}{64} \div \frac{108}{48}\right) - \frac{7}{24}$
- 5) Simplify: $\frac{5}{9} - (1 - 3)^2 - \left(\frac{3}{8} - \frac{1}{12}\right)$
- 6) Solve: $-1^8 - (7x - 7) + (-1 - 1)^3 - 6x = -3^3 - 3(4x - 3) + (-1 - 3)^2 - x$
- 7) Solve: $-6^0 - 10 \div 5(-1 - 1) - (7x - 2) - 3x - 3^2 = -2(4x - 7) - (-2 - 1)^2 - 2x$
- 8) Solve: $\frac{1}{48} + \frac{5}{36}x = \frac{7}{8} - \frac{11}{24}x$
- 9) Solve: $-(-1 - 1)^4 - (3x - 1)^0 - 8x - (-1 - 2)^2 = -9^0 - 4(4x - 1) - 3x - 3^4$
- 10) Solve: $\frac{9x - 5}{16} - \frac{1}{24} = \frac{7}{12}x + 5$
- 11) Solve: $\frac{7c}{8a} - \frac{5y}{6k} = \frac{2}{9a}$ for the letter a
- 12) Solve: $\frac{7}{12x} + \frac{1m}{8xa} = \frac{5c}{18y}$ for the letter x
- 13) Amy has \$5.95 in her pocket consisting of quarters, nickels, and pennies. If she has twice as many nickels as pennies and five less quarters than pennies, how many of each type of coin does she have?
- 14) How much pure water should be added to 32 gallons of a 76% acid solution in order to make a 16% acid solution?
- 15) A movie theater's gross receipts for one night are \$6,372 and 639 people attended. Adult tickets cost \$11, tickets for seniors cost \$7,

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and tickets for children cost \$4. If three times as many adults went to the movies that night than seniors, how many of each type of ticket were sold?

- 16) How much 84% acid solution should be mixed with 15 gallons of a 21% acid solution in order to make a 57% acid solution?
- 17) If six less than the quotient of a number and five is eight more than three less than the product of the number and seven, find the number.
- 18) If nine less than triple the sum of three consecutive even integers is three hundred sixty-nine, find the three integers.
- 19) If five more than the quotient of twice a number and seven is two less than triple the number, find the number.
- 20) The difference of two numbers is seventeen. If four less than the sum of the two numbers is one more than five times the smaller, find the two numbers.

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