

Solve the following word problems as a system of equations.

• Graphing, Substitution or Elimination

- 1.) You have a total of 65 coins, all nickels and dimes, which have a total value of \$5.50. How many of each type of coin do you have?

$$\underline{\text{Eq}}^{\#1}: x + y = 65$$

20 nickels and 45 dimes

$$\underline{\text{Eq}}^{\#2}: 0.05x + 0.10y = 5.50$$

- 2.) The sum of two number is 114. The larger number is 6 less than three times the other. What are the two numbers?

$$\underline{\text{Eq}}^{\#1}: x + y = 114$$

30 and 84

$$\underline{\text{Eq}}^{\#2}: y = 3x - 6$$

- 3.) At an all-you-can-eat fundraiser that you are sponsoring, adults pay \$6 each and children pay \$4 each. 212 people attend and you raise \$1128. What is the total number of adults and children attending?

$$\underline{\text{Eq}}^{\#1}: x + y = 212$$

140 Adult and 72 Children
Tickets were sold

$$\underline{\text{Eq}}^{\#2}: 6x + 4y = 1128$$

- 4.) You have a jar full of nickels and dimes that contains 386 coins. The total value of the coins is \$29.35. How many of each coin do you have?

$$\underline{\text{Eq}}^{\#1}: x + y = 386$$

185 Nickels and 201 Dimes

$$\underline{\text{Eq}}^{\#2}: 0.05x + 0.10y = 29.35$$

5.) The sum of two numbers is 134. The difference of the same two numbers is 28. What are the two numbers?

$$\text{Eq}^{\#1}: x + y = 134$$

53 and 81

$$\text{Eq}^{\#2}: x - y = 28$$

6.) Adult tickets to a play cost \$22. Tickets for children cost \$15. Tickets for a group of 11 people cost a total of \$228. The play starts at 8 pm. How many adults and how many children were in the group?

$$\text{Eq}^{\#1}: x + y = 11$$

9 Adult and 2 Children
Tickets were sold

$$\text{Eq}^{\#2}: 22x + 15y = 228$$

7.) Sarah invested \$15000. She put part of it in stocks that paid 4% per year, and the remainder in a bonds that paid 5% per year. After one year, the total interest was \$690. How much did Sarah invest at each rate?

$$\text{Eq}^{\#1}: x + y = \$15,000$$

Sarah invested \$6,000 in
stocks and \$9,000 in bonds

$$\text{Eq}^{\#2}: 0.04x + 0.05y = 690$$

8.) Jenny bought 5 apples and 3 bananas for \$4.90. Sam bought 3 apples and 5 bananas and paid \$5.50. What is the cost for a single banana and a single apple?

$$\text{Eq}^{\#1}: 5x + 3y = 4.90$$

Apples cost \$0.50 each and
Bananas cost \$0.80 each

$$\text{Eq}^{\#2}: 3x + 5y = 5.50$$