

## Bell Work

1. Find the solution and show all work. 
$$\begin{aligned} 3x + 4y &= 32 \\ y &= 3x - 7 \end{aligned}$$
2. What is the range in interval notation of the constant parent function?
3. What is the equation of a line in slope-intercept form that is perpendicular to  $y = \frac{4}{3}x - 7$  and goes through  $(4, -2)$ ?
4. What is the slope of the line with an equation of  $5x - 2y = -24$ ?

Amanda scored 21 points in the last basketball game on 9 baskets. Some were 2-point baskets and the rest were 3-point baskets. How many of each did she make?

1. Identify the variables.
2. Set-up the equations.
3. Solve the equations.
4. Find the other answer.
5. Answer the question with a complete sentence.

$$\text{2-point: } x = 6$$

$$\text{3-point: } y = 3$$

$$(-2) \quad x + y = 9$$

$$2x + 3y = 21$$

$$-2x - 2y = -18$$

$$\underline{2x + 3y = 21}$$

$$y = 3$$

$$x + 3 = 9 \quad x = 6$$

Amanda made 6 2-point baskets and 3 3-point baskets.

Michelle earns \$30 an hour tutoring English and \$40 an hour tutoring math. Last month she earned \$710 tutoring 20 hours. How many hours did she tutor English and math last month?

1. Identify the variables.
2. Set-up the equations.
3. Solve the equations.
4. Find the other answer.
5. Answer the question with a complete sentence.

$$\text{English: } x = 9$$

$$\text{Math: } y = 11$$

$$(-30) x + y = 20$$

$$30x + 40y = 710$$

$$-30x - 30y = -600$$

$$30x + 40y = 710$$

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$$10y = 110$$

$$y = 11$$

$$x + 11 = 20$$

$$x = 9$$

Michelle tutored 9 hours of English and 11 hours of math.

Larry, a carpenter, bought 4 boxes of nails and 3 boxes of screws, spending \$24. Later, he needed 2 more boxes of nails and 2 more boxes of screws, spending \$14. How much did each box of nails and box of screws cost?

1. Identify the variables.
2. Set-up the equations.
3. Solve the equations.
4. Answer the question with a complete sentence.

$$\text{Nails: } x = 3$$

$$\text{Screws: } y = 4$$

$$4x + 3y = 24$$

$$(-2) \quad 2x + 2y = 14$$

$$4x + 3y = 24$$

$$-4x - 4y = -28$$

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$$-y = -4$$

$$y = 4$$

$$2x + 8 = 14$$

$$2x = 6$$

$$x = 3$$

Larry, a carpenter, bought 4 boxes of nails and 3 boxes of screws, spending \$24. Later, he needed 2 more boxes of nails and 2 more boxes of screws, spending \$14. How much did each box of nails and box of screws cost?

**Each box of nails cost \$3 and each box of screws cost \$4.**

- 1. Identify the variables.**
- 2. Set-up the equations.**
- 3. Solve the equations.**
- 4. Answer the question with a complete sentence.**

Brad needs to some landscaping in his yard. He bought some bags of dirt and soil. There were at total of 13 bags. The bags of dirt cost \$4.50 a bag while the soil cost \$7.50 a bag. He spent a total of \$82.50. How many bags of each did he buy?

1. Identify the variables.
2. Set-up the equations.
3. Solve the equations.
4. Answer the question with a complete sentence.

$$\text{Dirt: } x = 5$$

$$\text{Soil: } y = 8$$

$$(-4.5) \quad x + y = 13$$

$$4.5x + 7.5y = 82.5$$

$$-4.5x - 4.5y = -58.5$$

$$4.5x + 7.5y = 82.5$$

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$$3y = 24$$

$$y = 8$$

$$x + 8 = 13 \quad x = 5$$

Brad bought 5 bags of dirt and 8 bags of soil.

Fred has \$20 more than twice the amount Barney has. Together they have \$92. How much does each of them have?

1. Identify the variables.
2. Set-up the equations.
3. Solve the equations.
4. Answer the question with a complete sentence.

$$\text{Fred: } x = 68$$

$$\text{Barney: } y = 24$$

$$x = 2y + 20$$

$$x + y = 92$$

$$2y + 20 + y = 92$$

$$3y + 20 = 92$$

$$3y = 72$$

$$y = 24$$

$$x + 24 = 92$$

$$x = 68$$

Fred has \$68 and Barney has \$24.

*Use substitution for this problem.*

**What are the 5 steps?**

- 1. Identify the variables.**
- 2. Set-up the equations.**
- 3. Solve the equations.**
- 4. Answer the question with a complete sentence.**



**Assignment:**

**Systems of Equations: Word Problems  
Worksheet**