

Lesson 3: Real World Problems & Standard Form

1. At your local market, ground beef costs \$2 per pound and chicken breasts cost \$3 per pound. You have a total of \$30 to spend on ground beef and chicken for a party. Which equation represents the amounts of ground beef and chicken you can buy?

Let x represent the number of pounds of ground beef and y represent the number of pounds of chicken breasts.

- A. $3x + 2y = 30$
- B. $2x + 3y = 30$
- C. $y = 2x + 3$
- D. $30x + 3y = 2$

2. Use the equation from problem 1 above to solve:

If you buy 3 pounds of ground beef, how many pounds of chicken can you buy for \$30?

- A. 8 pounds of chicken
- B. 10.5 pounds of chicken
- C. 18.5 pounds of chicken
- D. None of the above.

CFS:

- 1. Variables are defined in context
- 2. Values a, b, c are identified in context
- 3. Standard form equation is substituted with correct values
- 4. When need, answer is in context

3. You are in the running to be elected a member of your town council. You have \$275 to spend on advertising. It costs \$2 to make a button and \$1.50 to make a sign.

- Write an equation that represents the different number of buttons, x , and signs, y you could make.
- If you make 50 buttons, how many signs can you make?

4. Jessica made 240 oz of jam. She has two types of jars. The first holds 10 oz and the second holds 12 oz.

- Write an equation that represents the different numbers of 10 oz jars, x , and 12 oz jars, y , that will hold all of the jam.
- If Jessica used 16, 10 oz jars, how many 12 oz jars would she be able to make?

Your next assignment will be a **quiz**. You will need to know:

- How to write an equation in slope intercept form and how to write an equation in standard form.

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1. You are purchasing “photo books” as holiday gifts this year. A 5 page photo book costs \$10.50 and a 10 page photo book costs \$17.50. You have a total of \$217 to spend on holiday gifts. **(4 points)**

- Write an equation that you could use to determine how many 5 page photo books (x) you could purchase and how many 10 page photo books (y) you can purchase.
- If you decide that you need four 5 page photo books, how many ten page photo books can you purchase?
- Justify your answer mathematically.

2. A youth group is purchasing tickets to a local amusement park. Adult tickets cost \$15.50 and child tickets cost \$10.25. They have a total of \$545 to spend on tickets. **(4 points)**

- Write an equation that the youth group could use to determine the total number of adult tickets (a) and the total number of child tickets (c) that they can purchase.
- They have 32 children going to the amusement park. How many adult tickets can they buy as chaperones?
- Justify your answer mathematically.

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4. When need, answer is in context