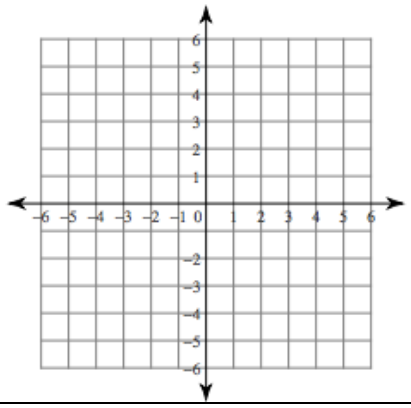
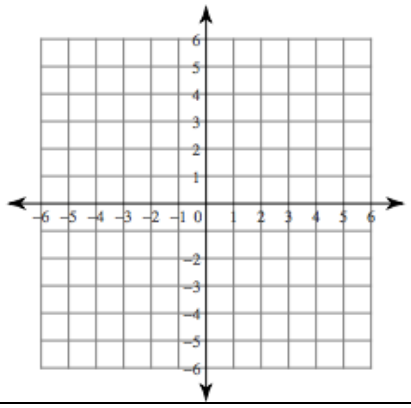
Name_____ Pd_____ Date_____ **Section 2.E.6**

**Linear Equations - Standard Form**

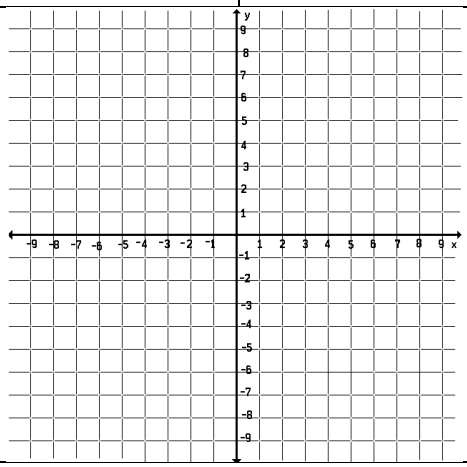
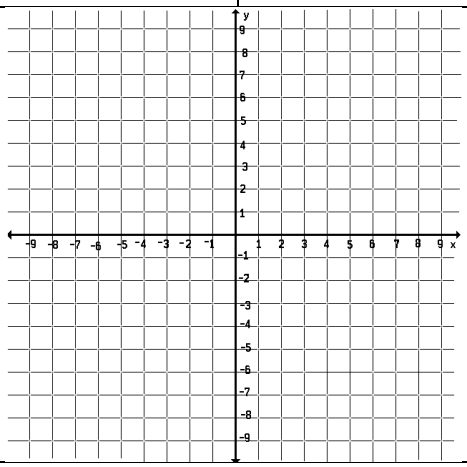
$$Ax + By = C$$

This form is most useful when we want to find

_____.

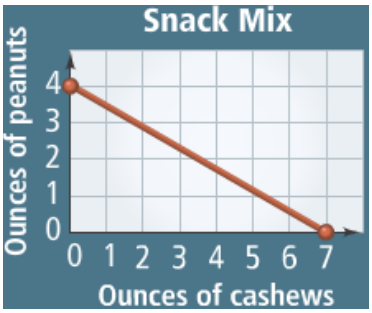
| X-Intercept | Y-Intercept |
|---|---|
| The x-intercept is on the _____ axis. What do you notice about all the ordered pairs on this axis?  | The y-intercept is on the _____ axis. What do you notice about all the ordered pairs on this axis?  |
| Therefore, to find the x-intercept, set _____. | Therefore, to find the y-intercept, set _____. |

Memory Trick!

| Ex. 1 | | You Try 2 | |
|---|---|---|---|
| Equation: $9x - 4y = 36$ | | Equation: $-8x + 5y = 40$ | |
| Find the x-intercept | Find the y-intercept | Find the x-intercept | Find the y-intercept |
| | | | |
| Graph  | | Graph  | |

**Standard Form in Real-Life Scenarios**

- This form of a linear equation happens when y does not really depend on x.
- You still have two variables that are related in the situation.




3) An athlete wants to make a snack of peanuts and cashews that will contain exactly 28g total of protein. Cashews have 4g of protein per ounce, and peanuts have 7g of protein per ounce. Write a standard form equation for the scenario. (Define your variables first.)

$x$:

$y$:

If the athlete's snack had only cashews, how many ounces of cashews would she need?
(We are really finding the _____.)

If the athlete's snack had only peanuts, how many ounces of peanuts would she need?
(We are really finding the _____.)

4) Target sells bags of hot fries for $2 each and honey buns for $1.25 each. You want to spend exactly $20 on snacks. Write a standard form equation that describes the items you can purchase.
(Define your variables first.)

$x$:

$y$:

If you don't buy any hot fires, how many honey buns can you buy? What did you just find?

If you don't buy any honey buns, how many bags of hot fries can you buy? What did you just find?

Could you buy 8 honey buns and 5 bags of hot fries? SHOW WORK.