

The **STANDARD FORM** of a linear equation is...

$$Ax + By = C$$

The **slope-intercept form** of a linear equation is...

$$y = mx + b$$

This unit we are learning about the **standard form** and will use it to represent problems by writing equations.

Examples:

1) Aria is selling tickets for the school musical. There are student tickets and adult tickets. She sells a total of 21 tickets. Write an equation to represent the situation.

$$x = \# \text{ of student tickets}$$

$$y = \# \text{ of adult tickets}$$

$$x + y = 21$$

2) Marisa is selling tickets for the school musical. There are student tickets and adult tickets. Student tickets are \$4 each, and adult tickets are \$6 each. She collected a total of \$104. Write an equation to represent the situation.

$$x = \# \text{ of student tickets}$$

$$y = \# \text{ of adult tickets}$$

$$4x + 6y = 104$$

You Try:

3) Drew's family goes to a cafe for dinner. Some people order the chicken special, and others order the tofu special. There was a total of 6 different orders placed.

a) Write an equation to represent the situation.

$$x = \# \text{ of tofu}, y = \# \text{ of chicken}$$

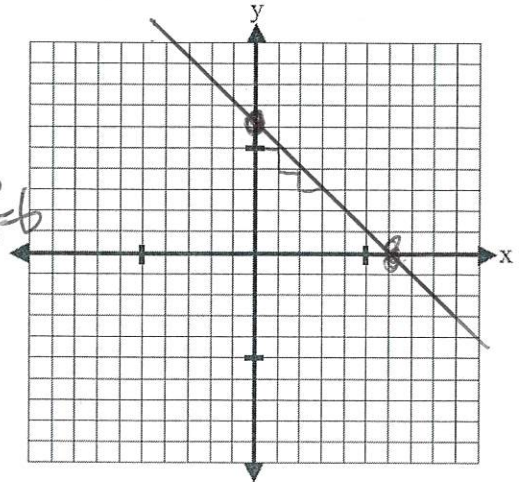
$$x + y = 6$$

Unit 4- Point Slope & Standard Form

b) Now, graph the equation you wrote in #3a.

Method 1:
 $x=0 \rightarrow y=6$
 $y=0 \rightarrow x=6$

Method 2:
 $x + y = 6$
 $y = -x + 6$
 $m = -1$ $b = 6$



c) Drew's family goes to a cafe for dinner. Some people order the chicken special, and others order the tofu special. The chicken special is \$17 and the tofu special is \$14.80. The total bill was \$91. Write an equation to represent the situation.

$x = \# \text{ of chicken}, y = \# \text{ of tofu}$
 $17x + 14.80 = 91$

4) Charles and Jordan go grocery shopping and buy the meat for a BBQ. A package of hot dogs costs \$1.60 and a package of hamburgers costs \$5. They spent a total of \$23.



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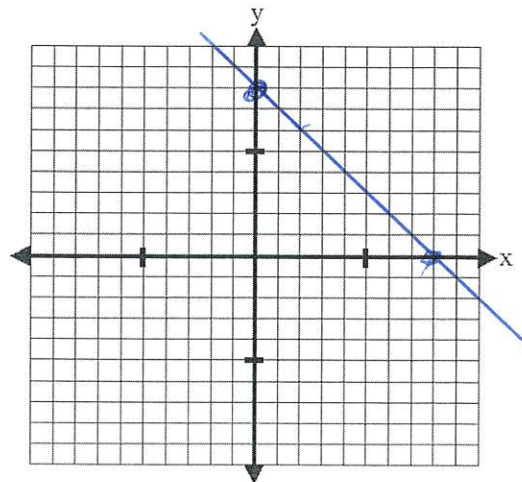
a) Write an equation to represent the situation.

$x = \# \text{ of hot dogs}, y = \# \text{ of hamburgers}$
 $1.60x + 5y = 23$

b) Charles and Jordan go grocery shopping and buy the meat for a BBQ and buy hot dogs and hamburgers. They bought a total of 8 packages of meat. Write an equation to represent the situation.

Then, graph it →

$x = \# \text{ of hot dogs}$
 $y = \# \text{ of hamburgers}$
 $x + y = 8$

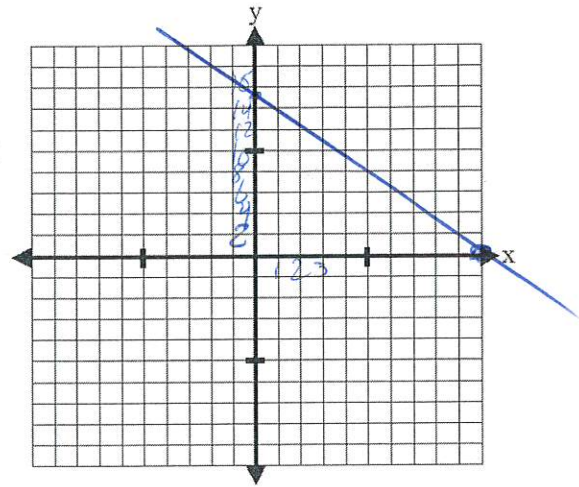


Unit 4- Point Slope & Standard Form

5) Laura plans to go to the Saturday BBQ. Not trusting Charles and Jordan at the grill, Laura decided to bring some pizzas just to be safe. She orders 3 large pizzas and 2 orders of breadsticks for \$30.

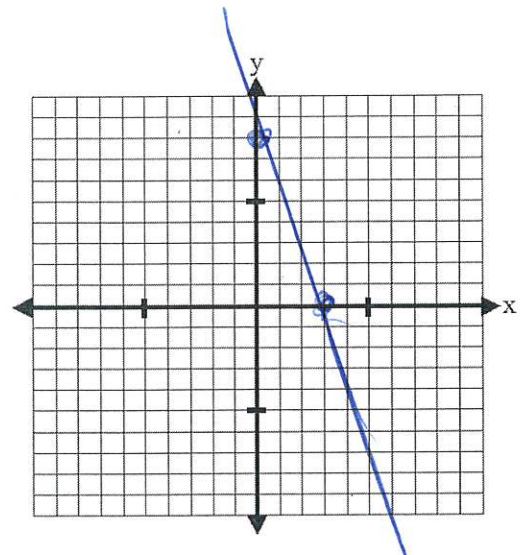
a) Write an equation to represent the situation, then graph it →

$x =$ ~~large~~ large cost
 $y =$ ~~breadstick~~ breadstick cost
 $3x + 2y = 30$
 $(0, 15)$
 $(10, 0)$



6) Abby also plans to go to the Saturday BBQ. Not trusting Charles and Jordan at the grill either, she decides to bring some food to be safe. She brings 8 bunches of celery and 3 packages of hummus for \$24. Write an equation to represent the situation, then graph it →

$x =$ Celery cost,
 $y =$ hummus cost
 $8x + 3y = 24$
 $(0, 8)$
 $(3, 0)$



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