

Day 30: Standard Form

The **STANDARD FORM** of a linear equations 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.

$$x = \# \text{ of students, } y = \# \text{ of adults}$$

$$x + y = 21$$

2) Aria 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.

$$x = \# \text{ of students, } y = \# \text{ of adults}$$

$$4x + 6y = 104$$

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. Write an equation to represent the situation.

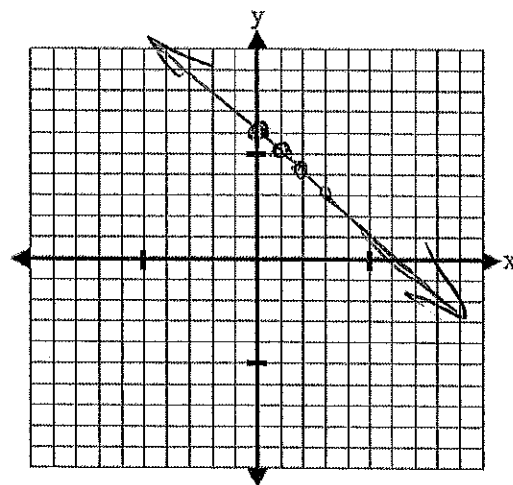
$$x = \# \text{ of chicken, } y = \# \text{ of tofu}$$

$$x + y = 6$$

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

$$\begin{array}{r} x + y = 6 \\ -x \quad -x \\ \hline y = -x + 6 \end{array}$$

$$y = -x + 6$$



5) 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.

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

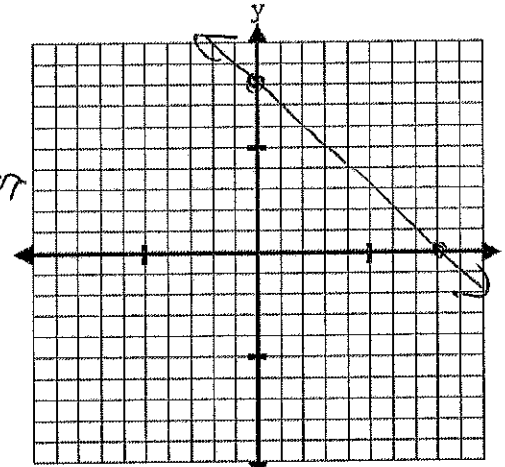
6) Charles and Jordan go grocery shopping and buy the meat for a BBQ. A package of hot dogs costs \$1.60 and a package of hamburgers costs \$5. They spent a total of \$23. Write an equation to represent the situation.

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

7) 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 →

$x = \# \text{ of hot dogs}, y = \# \text{ of hamburger}$

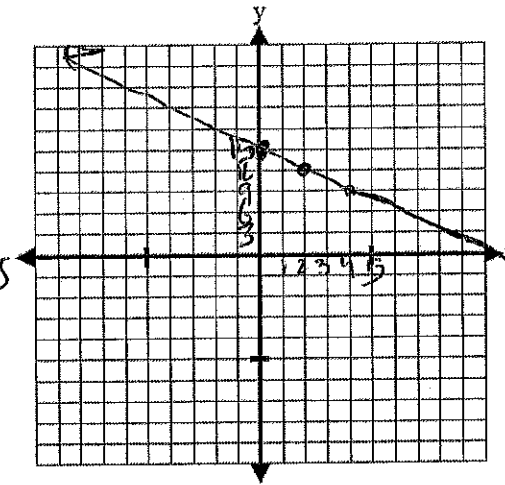
$x + y = 8$
 $-x \quad -x$
 $y = -x + 8$



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

$x = \text{price of large pizza}, y = \text{Price of breadsticks}$

$3x + 2y = 30$
 $-3x \quad -3x$
 $2y = -3x + 30$
 $y = -\frac{3}{2}x + 15$



10) 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 →

$x = \text{price of celery}, y = \text{price of hummus}$

$8x + 3y = 24$
 $-8x \quad -8x$
 $3y = -8x + 24 \rightarrow y = -\frac{8}{3}x + 8$

