

Algebra 1 4.1

Write and graph linear equations in slope-intercept form.

$$y = mx + b$$

Model data with equations in slope-intercept form

linear

slope

y-intercept

$$y = mx + b$$

constant function (horizontal)

bicycles and constant slope

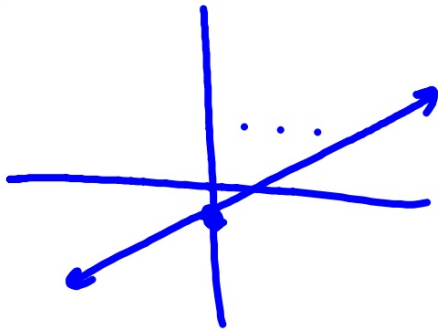
Matching activ. (if time)

Whiteboards

Whiteboards

3. slope: $\frac{3}{4}$, y-intercept: -1

$$y = \frac{3}{4}x + -1$$



4. slope: $-\frac{5}{7}$, y-intercept: $-\frac{2}{3}$

$$y = -\frac{5}{7}x + -\frac{2}{3}$$

Does it say $y =$? (not yet)

Guided Practice

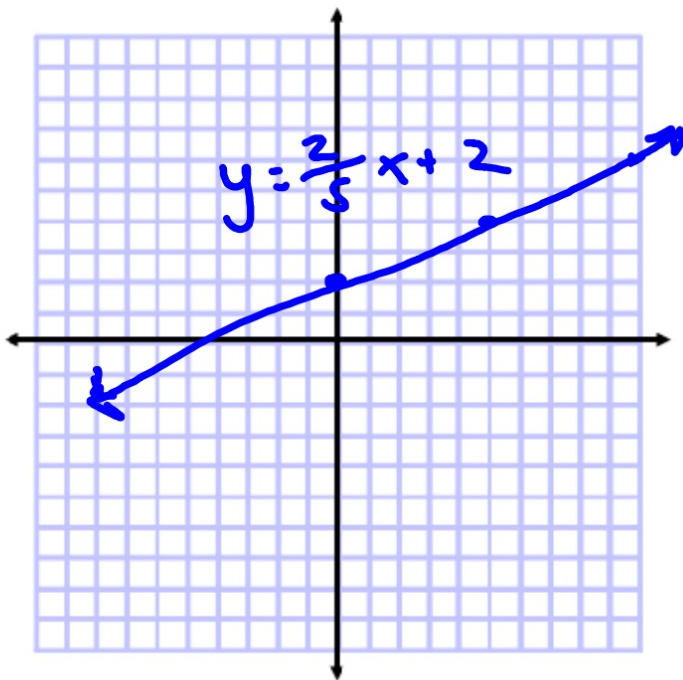
Graph each equation.

2A. $3x - 4y = 12$

$$y = \frac{2}{3}x + 2$$

2B. $-2x + 5y = 10$

$$\begin{array}{r} +2x \quad -2x \\ \hline 5y = \frac{2x+10}{5} \end{array}$$



5. $-4x + y = 2$

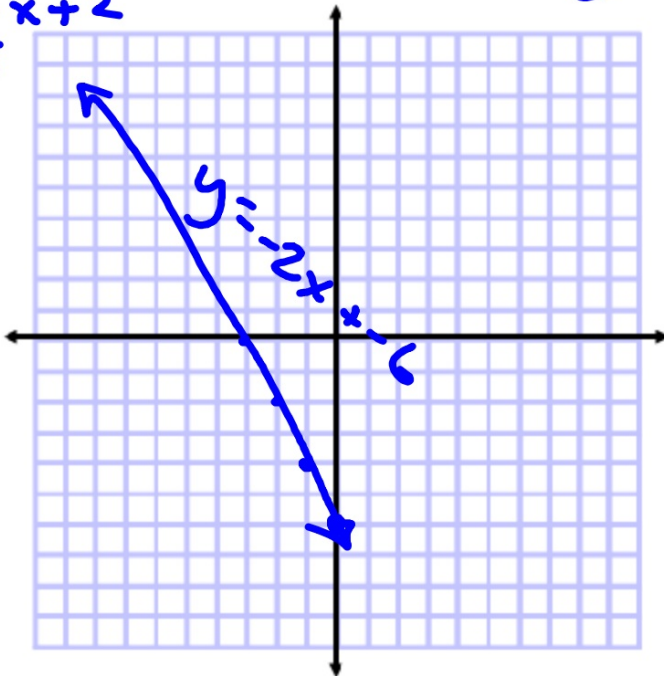
$+4x \quad +4x$

$y = \frac{4}{1}x + 2$

6. $2x + y = -6$

$y = \frac{-2x + -6}{1}$

$\frac{-2}{-1}$



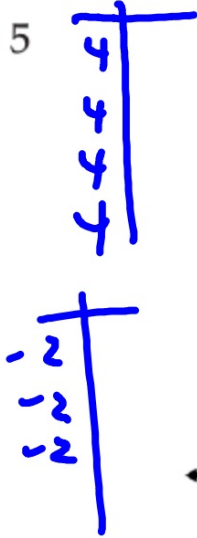
Special cases:

Guided Practice

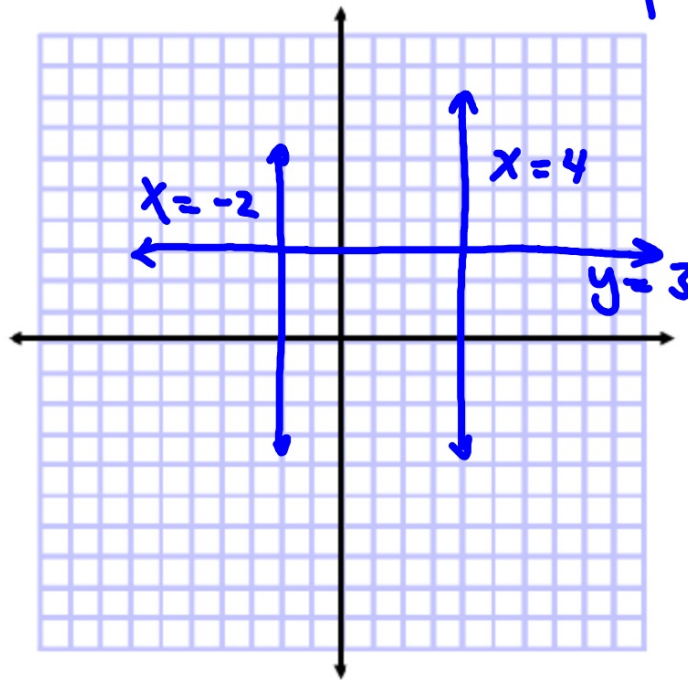
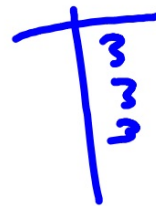
Graph each equation.

3A. $y = 5$

- $x = 4$
- $y = 3$
- $x = -2$



$x = 4$
 $y = 3$
 $x = -2$



Guided Practice

5. **FUNDRAISERS** The band boosters are selling sandwiches for \$5 each. They bought \$1160 in ingredients.

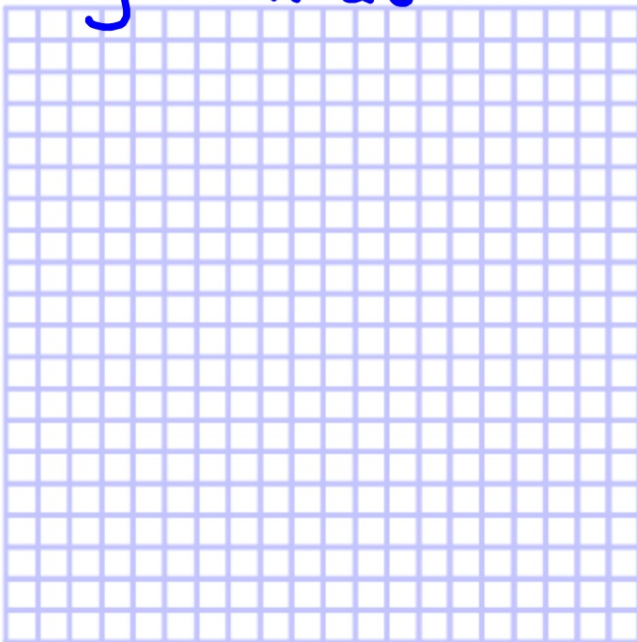
A. Write an equation for the profit P made on n sandwiches.

B. Graph the equation.

C. Find the total profit if 1400 sandwiches are sold.

When do they make a profit?

$$y = 5x - 20$$



$$P = 5x - 1160$$

$$5 \cdot 1400 - 1160$$
$$\$5840$$

Graph matching
activ (15 min?)