

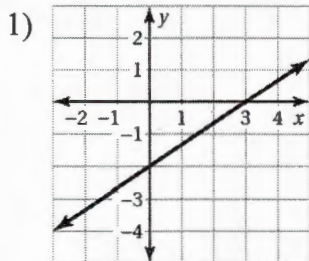
Name: _____

Answers

Period: _____

4.5 Graphing Linear Equations in Standard Form

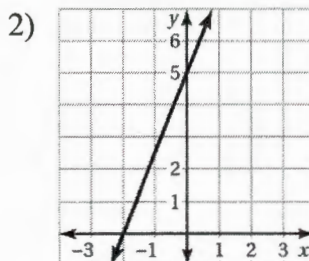
Use the graph to determine the x - and y -intercepts.



x-intercept

 $(3, 0)$

y-intercept

 $(0, -2)$ 

x-intercept

 $(-2, 0)$

y-intercept

 $(0, 5)$

Graph the linear equations using intercepts. Make sure you label the number of the problem next to the graph of the linear equation.

3) $4x + y = 8$

x-intercept

$$4x + 0 = 8$$

$$4x = 8$$

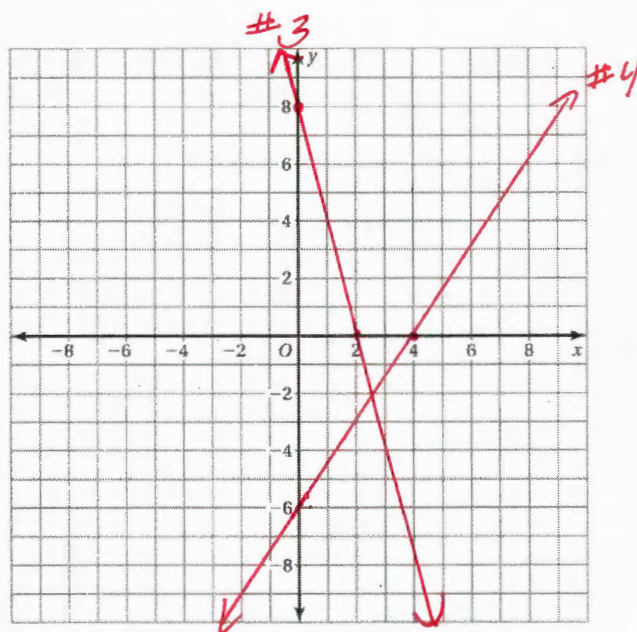
$$x = 2$$

 $(2, 0)$

y-intercept

$$4(0) + y = 8$$

$$y = 8$$

 $(0, 8)$ 

4) $3x - 2y = 12$

x-intercept

$$3x - 2(0) = 12$$

$$3x = 12$$

$$x = 4$$

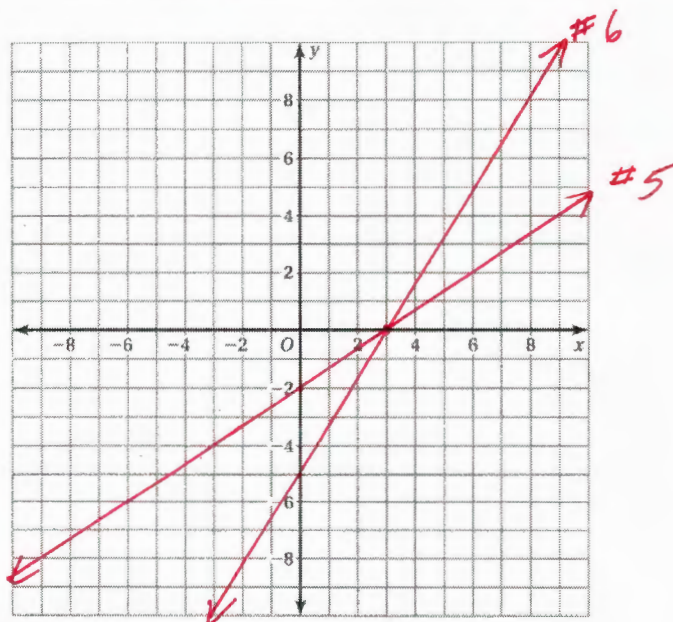
 $(4, 0)$

y-intercept

$$3(0) - 2y = 12$$

$$-2y = 12$$

$$y = -6$$

 $(0, -6)$ 

5) $2x - 3y = 6$

x-intercept

$$2x - 3(0) = 6$$

$$2x = 6$$

$$x = 3$$

 $(3, 0)$

y-intercept

$$2(0) - 3y = 6$$

$$-3y = 6$$

$$y = -2$$

 $(0, -2)$

6) $5x - 3y = 15$

x-intercept

$$5x - 3(0) = 15$$

$$5x = 15$$

$$x = 3$$

 $(3, 0)$

y-intercept

$$5(0) - 3y = 15$$

$$-3y = 15$$

$$y = -5$$

 $(0, -5)$

7) $2.5x - 1.25y = 5$

x-intercept

$$2.5x - 1.25(0) = 5$$

$$2.5x = 5$$

$$x = 2$$

$$(2, 0)$$

y-intercept

$$2.5(0) - 1.25y = 5$$

$$-1.25y = 5$$

$$y = -4$$

$$(0, -4)$$

8) $\frac{1}{5}x + \frac{1}{10}y = \frac{2}{5}$

x-intercept

$$\frac{1}{5}x + \frac{1}{10}(0) = \frac{2}{5}$$

$$\frac{1}{5}x = \frac{2}{5}$$

$$x = 2$$

$$(2, 0)$$

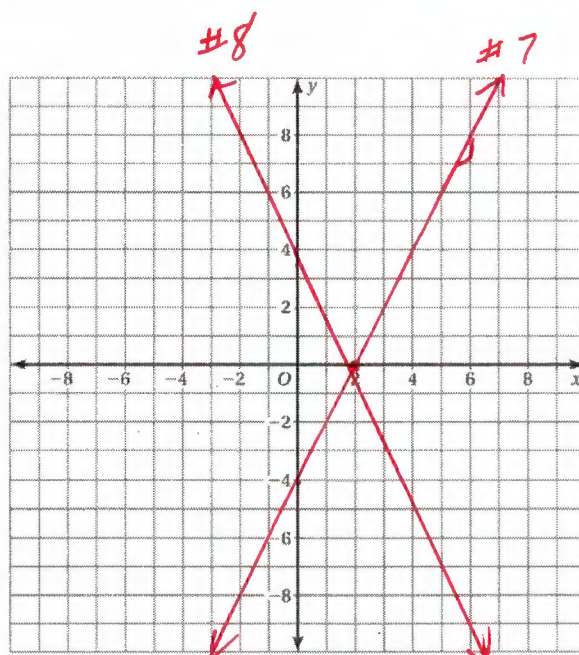
y-intercept

$$\frac{1}{5}(0) + \frac{1}{10}y = \frac{2}{5}$$

$$\frac{1}{10}y = \frac{2}{5}$$

$$y = 4$$

$$(0, 4)$$



- 9) The total amount of fiber (in grams) in a package containing x apples and y oranges is given by the equation $5x + 10y = 110$.

- a) Find and interpret the y-intercept.

$$(0, 11)$$

11 oranges have 110 grams of fiber.

- b) Find and interpret the x-intercept.

$$(22, 0)$$

22 apples have 110 grams of fiber.

- c) How many grams of fiber does an orange contain?

10 grams of fiber

- d) How many grams of fiber does an apple contain?

5 grams of fiber

- e) Is it possible for the package to contain 15 apples? Explain.

- 10) You have two jobs. You earn \$8 for each hour x that you work as a restaurant host and \$6 for each hour y that you work as a hair washer. Your earnings for the pay period are \$144.

- a) Write an equation in standard form that models your earnings.

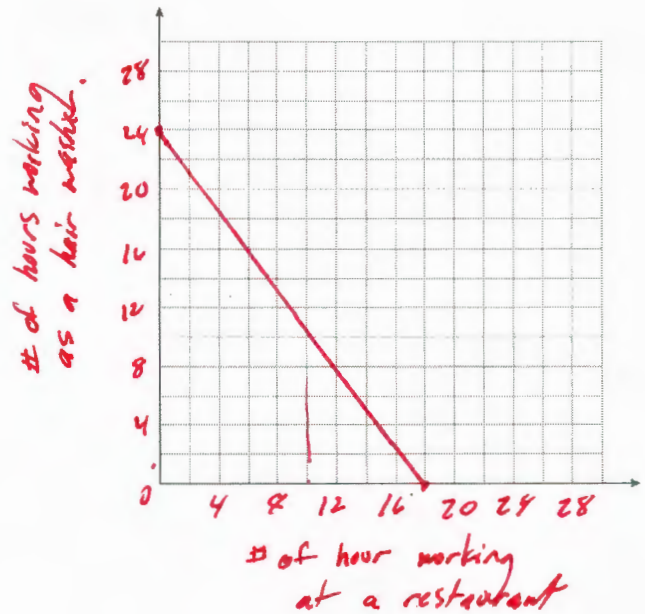
$$8x + 6y = 144$$

- b) Find the x - and y -intercepts.

$$(18, 0)$$

$$(0, 24)$$

- c) Graph the equation.



- d) You worked 10 hours as a hair washer. How many hours did you work as a host?

$$8x + 6(10) = 144$$

$$8x + 60 = 144$$

$$-60 \quad -60$$

$$8x = 84$$

$$x = 10.5 \text{ hours}$$

- 11) Your family is on a ski vacation. Lift tickets for the family cost \$80 per day. Snowboard rentals cost \$40 per day. You purchase lift tickets for x days and snowboard rentals for y days and spend \$480.

- a) Write an equation in standard form that models your earnings.

~~$$80x + 40y = 480$$~~

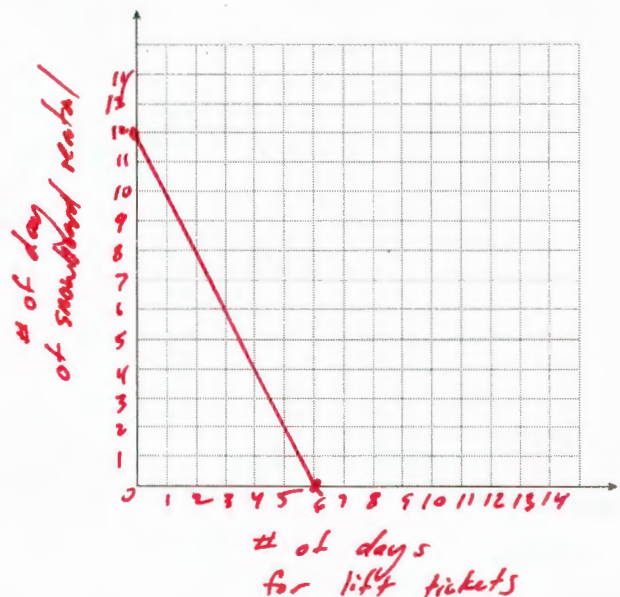
$$80x + 40y = 480$$

- b) Find the x - and y -intercepts.

$$(6, 0)$$

$$(0, 12)$$

- c) Graph the equation.



- d) You rent snowboards for 2 days. How many days did you purchase lift tickets?

$$80x + 40(2) = 480$$

$$80x + 80 = 480$$

$$80x = 400$$

$$x = 5 \text{ days}$$