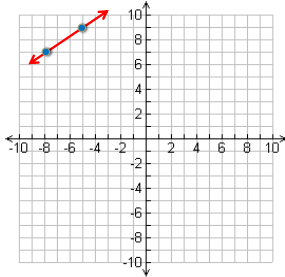


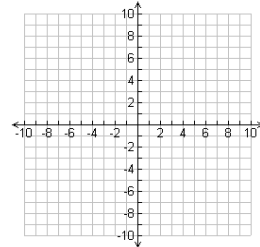
Warmup 10/(dieciocho)

1. What is the y-intercept of this line?



Warmup (Continued)

- 2) Draw a graph of the equation $2x = 10 - y$.



HW p. 258-260 (18-22)

18. A candle burned at a steady rate. After 32 minutes, the candle was 11.2 inches tall. Eighteen minutes later, it was 10.75 inches tall. Use an equation in point-slope form to determine the height of the candle after 2 hours.

$$m = \frac{10.75 - 11.2}{50 - 32} = \frac{-0.45}{18} = -0.025$$

$$y - 11.2 = -0.025(120 - 32)$$

$$y = 9$$

After 2 hours, the candle will be 9 inches tall.

19. Volume A rectangular swimming pool has a volume capacity of 2160 cubic feet. Water is being added to the pool at a rate of about 20 cubic feet per minute. Determine about how long it will take to fill the pool completely if there were already about 1200 gallons of water in the pool. Use the fact that 1 cubic foot of space holds about 7.5 gallons of water.

$$\frac{1200 \text{ gal}}{7.5 \text{ gal/ft}^3} = 160 \text{ ft}^3$$

$$2160 = 160 + 20x$$

$$2000 = 20x$$

$$x = 100$$

It will take about 100 minutes to fill the pool completely.

20. Multi-Step Marisa is walking from her home to her friend Sanjay's home. When she is 12 blocks away from Sanjay's home, she looks at her watch. She looks again when she is 8 blocks away from Sanjay's home and finds that 6 minutes have passed.

- a. What do you need to assume in order to treat this as a linear situation?

That Marisa is walking at a fixed rate.

- b. Identify the variables for the linear situation and identify two points on the line. Explain the meaning of the points in the context of the problem.

x represents the number of minutes since Marisa first looked at her watch, and y represents the number of blocks she is from Sanjay's home. The point $(0, 12)$ indicates that when Marisa first looked at her watch, she was 12 blocks from Sanjay's home. The point $(6, 8)$ indicates that 6 minutes after she first looked at her watch she was 8 blocks from Sanjay's home.

- c. Find the slope of the line and describe what it means in the context of the problem.

$m = \frac{8 - 12}{6 - 0} = -\frac{2}{3}$; the slope indicates that for every minute Marisa walks, the distance to Sanjay's home decreases by $\frac{2}{3}$ block.

- d. Write an equation in point-slope form for the situation and use it to find the number of minutes Marisa takes to reach Sanjay's home. Show your work.

$$0 - 12 = -\frac{2}{3}(x - 0)$$

$18 = x$ Marisa takes 18 minutes to reach Sanjay's home.

21. Match each equation with the pair of points used to create the equation.

a. $y - 10 = 1(x + 2)$ c $(0, 0), (-1, 1)$

b. $y - 0 = 1(x - 0)$ b $(1, 1), (-1, -1)$

c. $y - 3 = -1(x + 3)$ a $(-2, 10), (0, 12)$

d. $y - 3 = 0(x - 2)$ d $(1, 3), (-3.5, 3)$

22. Explain the Error Carlota wrote the equation $y + 1 = 2(x - 3)$ for the line passing through the points $(-1, 3)$ and $(2, 9)$. Explain and correct her error.

Carlota replaced x , in the point-slope form with y , and vice versa. A correct equation using the point $(-1, 3)$ is $y - 3 = 2(x + 1)$. A correct equation using the point $(2, 9)$ is $y - 9 = 2(x - 2)$.

Quiz Friday

- Slope-Intercept Form
- Standard Form
- Point-Slope Form
- With story problems!
- Linear Inequalities (Wed and Thurs)
- Who will be absent on Friday?

Finish Worksheet (4 and 5)

- Write an equation for a line that has the same y -intercept as $x + 4y = 8$ and contains the point $(2, 7)$.

Homework

Worksheet