

8. A fishing lake was stocked with 300 bass. Each year, the population decreases by 25 bass.

a. Write a function for the situation.

$$y = 300 - 25x \quad x = \# \text{ of years}$$

b. Find the x intercept. What does it mean in terms of the situation?

$$\begin{aligned} 0 &= 300 - 25x \\ -300 &= -25x \\ 12 &= x \end{aligned} \quad \begin{array}{l} \text{after 12 years there will} \\ \text{be no bass left} \end{array}$$

9. At higher altitudes, water boils at lower temperatures. This relationship between altitude and boiling point is linear. At an altitude of 1000 feet, water boils at 210° F. At an altitude of 3000 feet, water boils at 206° F.

$$(1000, 210) \quad (3000, 206) \quad \frac{210 - 206}{1000 - 3000} = \frac{4}{-2000} = -\frac{1}{500}$$

a. Write an equation in point-slope form to model this situation.

$$y - 210 = -\frac{1}{500}(x - 1000)$$

b. Solve for y to change your equation into slope-intercept form.

$$y = -\frac{1}{500}x + 212$$

$$y - 210 = -\frac{1}{500}x + 2$$

$$y = -\frac{1}{500}x + 212$$

c. Find the boiling point at 6000 feet.

$$y = -\frac{1}{500}(6000) + 212$$

$$y = -12 + 212$$

$$y = 200$$

200° F

10. Rick will participate in a walk-a-thon to raise money for charity. The amount he will raise based on the number of miles he walks is shown in the table, which represents a linear function.

Miles Walked	Amount Raised (\$)
2	220
5	460
8	700
11	940

$$\frac{240}{3} = 80$$

$$y - 220 = 80(x - 2)$$

$$y - 220 = 80x - 160$$

$$y = 80x + 60$$

Which of these statements are correct? Select two that apply.

Pick up to 2 answers.

A If Rick walks 0 miles, he will raise \$0.

B If Rick walks 0 miles, he will raise \$60. → y-intercept

C If Rick walks 0 miles, he will raise \$80.

D For each mile that Rick walks, he will raise an additional \$60.

E For each mile that Rick walks, he will raise an additional \$80. → slope

F For each mile that Rick walks, he will raise an additional \$110.

11. Rearrange the equations to solve for y.

$$3x - 2y = 12$$

$$-2y = -3x + 12$$

$$y = \frac{3}{2}x - 6$$

$$y - 4 = -\frac{1}{2}(x - 2)$$

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

$$y = -\frac{1}{2}x + 5$$

$$3y - 9 = 5x$$

$$3y = 5x + 9$$

$$y = \frac{5}{3}x + 3$$

$$-6x + 3y = 15$$

$$3y = 6x + 15$$

$$y = 2x + 5$$