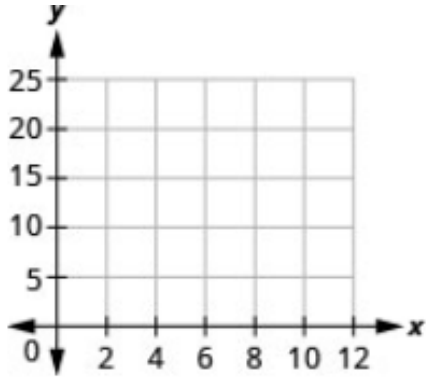
4.1-4.3 Open Stax Applications

49. **Weight of a baby.** Mackenzie recorded her baby's weight every two months. The baby's age, in months, and weight, in pounds, are listed in the table below, and shown as an ordered pair in the third column.

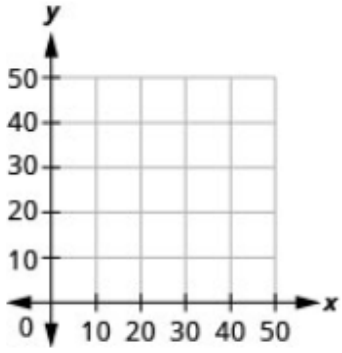
ⓐ Plot the points on a coordinate plane.



Age x	Weight y
0	7
2	11
4	15
6	16
8	19
10	20
12	21

50. **Weight of a child.** Latresha recorded her son's height and weight every year. His height, in inches, and weight, in pounds, are listed in the table below, and shown as an ordered pair in the third column.

ⓐ Plot the points on a coordinate plane.



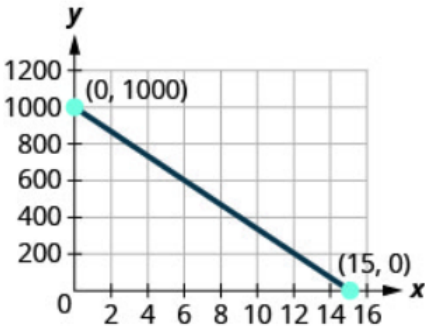
Height x	Weight y
28	22
31	27
33	33
37	35
40	41
42	45

Everyday Math

135. **Motor home cost.** The Robinsons rented a motor home for one week to go on vacation. It cost them $594 plus $0.32 per mile to rent the motor home, so the linear equation $y = 594 + 0.32x$ gives the cost, y, for driving x miles. Calculate the rental cost for driving 400, 800, and 1200 miles, and then graph the line.

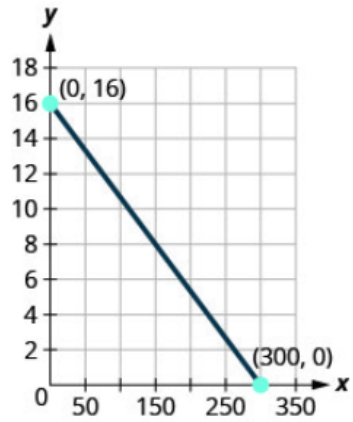
136. **Weekly earnings.** At the art gallery where he works, Salvador gets paid $200 per week plus 15% of the sales he makes, so the equation $y = 200 + 0.15x$ gives the amount, y, he earns for selling x dollars of artwork. Calculate the amount Salvador earns for selling $900, $1600, and $2000, and then graph the line.

205. **Road trip.** Damien is driving from Chicago to Denver, a distance of 1000 miles. The *x*-axis on the graph below shows the time in hours since Damien left Chicago. The *y*- axis represents the distance he has left to drive.



ⓐ Find the *x*- and *y*- intercepts.
ⓑ Explain what the *x*- and *y*- intercepts mean for Damien.

206. **Road trip.** Ozzie filled up the gas tank of his truck and headed out on a road trip. The *x*- axis on the graph below shows the number of miles Ozzie drove since filling up. The *y*- axis represents the number of gallons of gas in the truck's gas tank.



ⓐ Find the *x*- and *y*- intercepts.
ⓑ Explain what the *x*- and *y*- intercepts mean for Ozzie.

Writing Exercises

51. Explain in words how you plot the point $(4, -2)$ in a rectangular coordinate system.

52. How do you determine if an ordered pair is a solution to a given equation?

53. Is the point $(-3, 0)$ on the *x*-axis or *y*-axis? How do you know?

54. Is the point $(0, 8)$ on the *x*-axis or *y*-axis? How do you know?

137. Explain how you would choose three *x*- values to make a table to graph the line $y = \frac{1}{5}x - 2$.

138. What is the difference between the equations of a vertical and a horizontal line?

207. How do you find the *x*- intercept of the graph of $3x - 2y = 6$?

208. Do you prefer to use the method of plotting points or the method using the intercepts to graph the equation $4x + y = -4$? Why?

209. Do you prefer to use the method of plotting points or the method using the intercepts to graph the equation $y = \frac{2}{3}x - 2$? Why?

210. Do you prefer to use the method of plotting points or the method using the intercepts to graph the equation $y = 6$? Why?