

EXAMPLE 5

on p. 237
for Exs. 19–20

19. **MOVIE RENTALS** The table shows the number of days you keep a rented movie before returning it and the total cost of renting the movie. Find the rate of change in cost with respect to time and interpret its meaning.

Time (days)	4	5	6	7
Total cost (dollars)	6.00	8.25	10.50	12.75

20. **AMUSEMENT PARK** The table shows the amount of time spent at an amusement park and the admission fee the park charges. Find the rate of change in the fee with respect to time spent at the park and interpret its meaning.

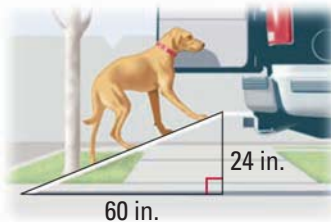
Time (hours)	4	5	6
Admission fee (dollars)	34.99	34.99	34.99

FINDING SLOPE Find the slope of the object. Round to the nearest tenth.

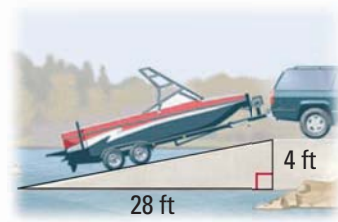
21. Skateboard ramp



22. Pet ramp



23. Boat ramp



In Exercises 24–32, use the example below to find the value of x or y so that the line passing through the given points has the given slope.

EXAMPLE Find a coordinate given the slope of a line

Find the value of x so that the line that passes through the points $(2, 3)$ and $(x, 9)$ has a slope of $\frac{3}{2}$.

Solution

Let $(x_1, y_1) = (2, 3)$ and $(x_2, y_2) = (x, 9)$.

$$m = \frac{y_2 - y_1}{x_2 - x_1} \quad \text{Write formula for slope.}$$

$$\frac{3}{2} = \frac{9 - 3}{x - 2} \quad \text{Substitute values.}$$

$$3(x - 2) = 2(9 - 3) \quad \text{Cross products property}$$

$$3x - 6 = 12 \quad \text{Simplify.}$$

$$x = 6 \quad \text{Solve for } x.$$

24. $(x, 4), (6, -1); m = \frac{5}{6}$ 25. $(0, y), (-2, 1); m = -8$ 26. $(8, 1), (x, 7); m = -\frac{1}{2}$
 27. $(5, 4), (-5, y); m = \frac{3}{5}$ 28. $(-9, y), (0, -3); m = -\frac{7}{9}$ 29. $(x, 9), (-1, 19); m = 5$
 30. $(9, 3), (-6, 7y); m = 3$ 31. $(-3, y + 1), (0, 4); m = 6$ 32. $(\frac{x}{2}, 7), (-10, 15); m = 4$