Lesson 5 Extra Practice
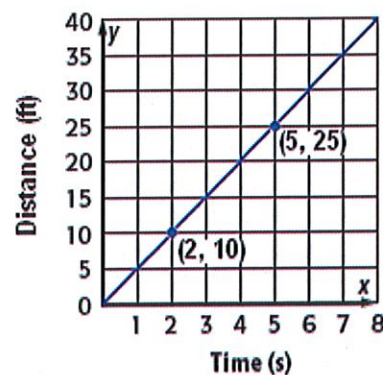
Compare Properties of Functions

1. Morgan takes a 5 mile walk almost every day. For the first two miles, she walks at a rate of 4 feet per second. The rate she walks for the next three miles is shown in the graph. Compare the speeds for each part of her walk.
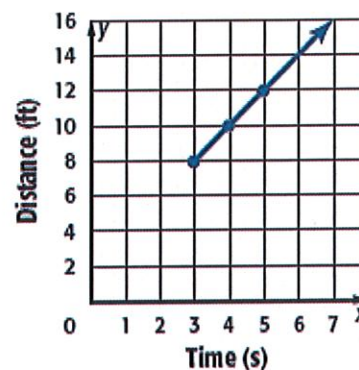

2. The fees to print pictures from an online company are represented by the function $c = 3 + 0.09p$ where c is the total cost and p is the number of pictures printed. The fees charged by a print shop are shown in the table.

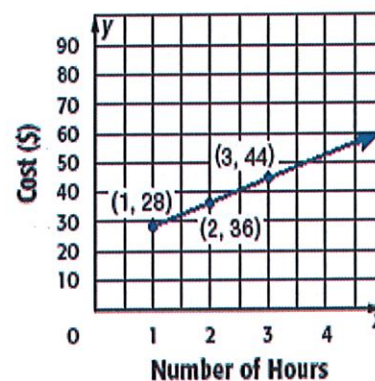| Number of Pictures	1	2	3	4
Total Cost ($)	0.09	0.18	0.27	0.36

a. Compare the functions' *y*-intercepts and rates of change.

b. Patrick ordered 25 pictures from each service. What are the fees from each place?

Lesson 6 Extra Practice

Construct Functions

1. The graph shows the distance Jeffrey is from a water fountain after a certain amount of time. Find and interpret the rate of change and the initial value.

2. The graph shows the total cost for a lawn mowing service to mow a lawn. Find and interpret the rate of change and the initial value.

3. A computer repair company charges an initial fee plus $40 per hour for repair work. The total cost for 3 hours of work is $150. Assume the relationship is linear. Find and interpret the rate of change and the initial value.

Lesson 3 Extra Practice

Functions

Find each function value.

1. $f\left(\dfrac{1}{2}\right)$ if $f(x) = 2x - 6$

2. $f(-4)$ if $f(x) = -\dfrac{1}{2}x + 4$

3. $f(1)$ if $f(x) = -5x + 1$

4. $f(6)$ if $f(x) = \dfrac{2}{3}x - 5$

5. $f(0)$ if $f(x) = 1.6x + 4$

6. $f(2)$ if $f(x) = 2x - 8$

Choose four values for x to make a function table for each function. Then state the domain and range of the function.

7.

x	−4x	f(x)

8.

x	x + 6	f(x)

9.

x	3x + 2	f(x)

Lesson 7 Extra Practice

Linear and Nonlinear Function

Determine whether each table represents a *linear* or *nonlinear* function. Explain.

1.

x	−1	0	1	2
y	2	0	2	8

2.

x	−1	0	1	2
y	−1	0	1	8

3.

x	−1	0	1	2
y	−3	0	3	6

4.

x	−3	−2	0	1
y	−5	−3	−2	−1

5.

x	2	5	8	11
y	−4	−2	0	2

6.

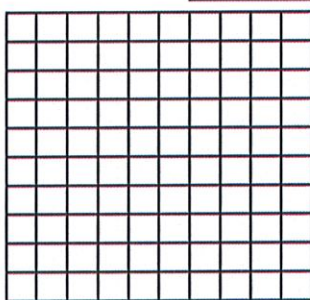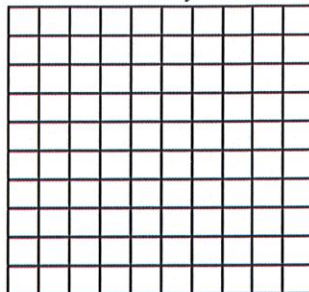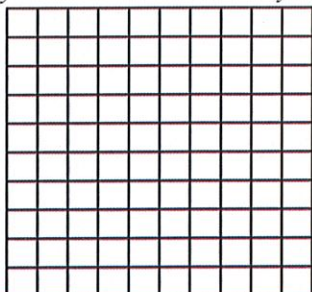| x	−6	−2	2	6
y	0	−1	−2	−3

Lesson 4 Extra Practice

Linear Functions

Graph each function.
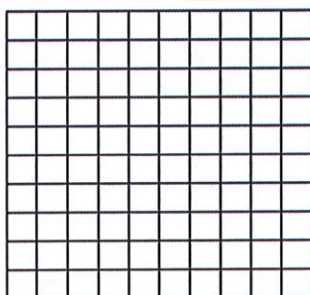
1. $y = 3x + 1$ **2.** $y = -2x + 3$ **3.** $y = -5x$
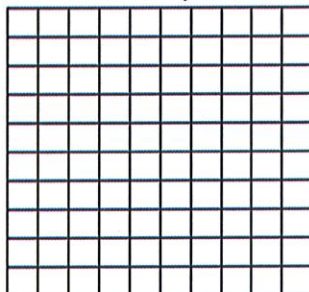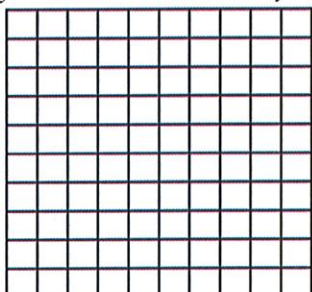
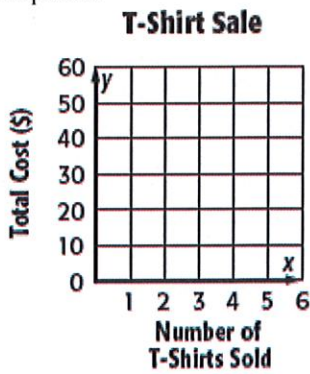**4.** $y = 10x - 2$ **5.** $y = -2.5x - 1.5$ **6.** $y = -8$

7.   The school spirit club is selling T-shirts for $10.50 each.
     a. Write a function to represent this situation.

b. Make a function table to find the total cost of 1, 2, 3, 4, or 5 T-shirts.

Number of T-shirts, x		Total Cost ($), y

c. Graph the function. Is the function continuous or discrete? Explain.

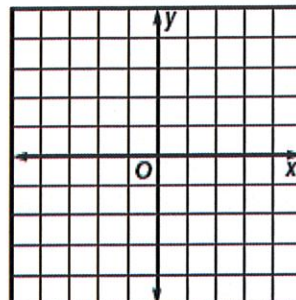**T-Shirt Sale**

Number of T-Shirts Sold

Lesson 2 Extra Practice

Relations

Express each relation as a table and a graph. Then state the domain and range.

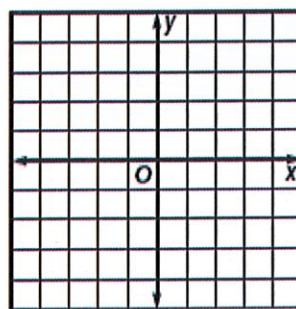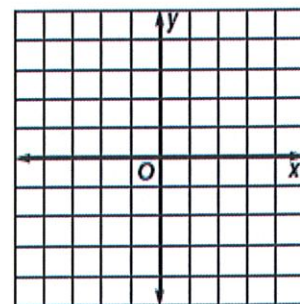1. $\{(3, 2), (-2, 4), (4, -4), (4, 0), (-1, -3)\}$

x	y

2. $\{(-1, -5), (2, -3), (3, -2), (5, 1), (-4, 2)\}$
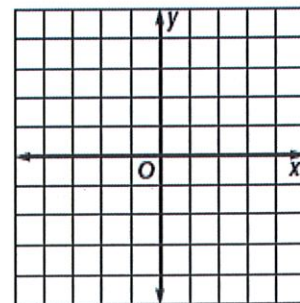
x	y

3. $\left\{(0, 3), \left(1\frac{1}{2}, -2\right), \left(-3\frac{1}{2}, 2\frac{1}{2}\right), (-4, -3), (-2, 0)\right\}$

x	y

4. $\{(1.5, -2), (-2, 3.5), (-2.5, -2.5), (0, 4.5), (3.25, 1.5)\}$

x	y

Course 3 • Chapter 4 Functions

Lesson 1 Extra Practice

Represent Relationships

1. The zoo is holding a recycling day. It deducts $0.10 from the price of admission for each recyclable item donated at the zoo. Admission is $15. The table shows the reduced price for admission if 10, 11, 12, or 13 items are donated.

Number of Items Donated	Price ($)
10	14.00
11	13.90
12	13.80
13	13.70
d	?

a. Write an equation to determine the price of admission p number of donated items d. Describe the relationship in with any words.

b. Use the equation to find the cost of admission if 25 items are donated.

2. Jen is renting a mountain bike. The bike rental shop charges a $55 deposit for the bike and helmet plus an additional $15 per day.

a. Write an equation to find the cost c of renting a mountain bike for any number of days d.

b. Make a table to find the cost for 4, 5, 6, and 7 days. Then graph the ordered pairs.

Bike Rentals