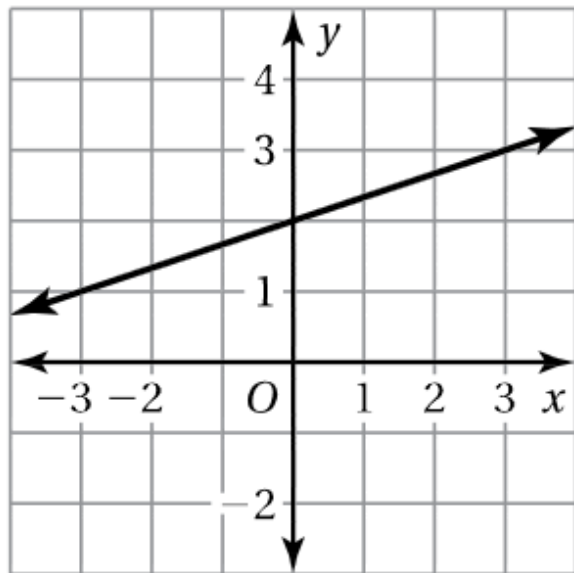# 6.3

Linear Functions

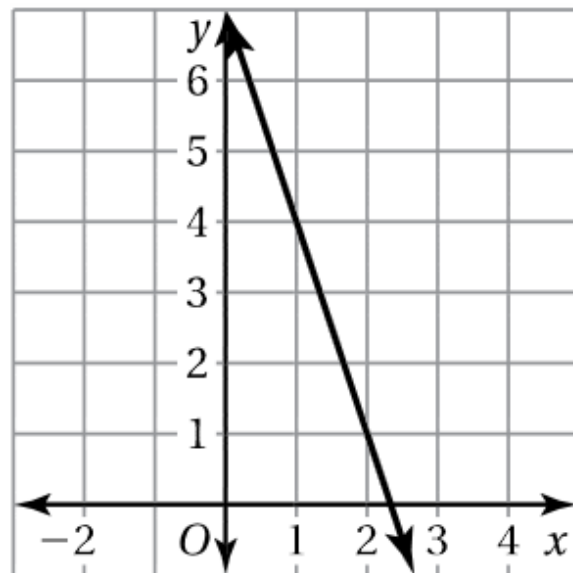**Write an equation of the line in slope-intercept form.**

1.

2.

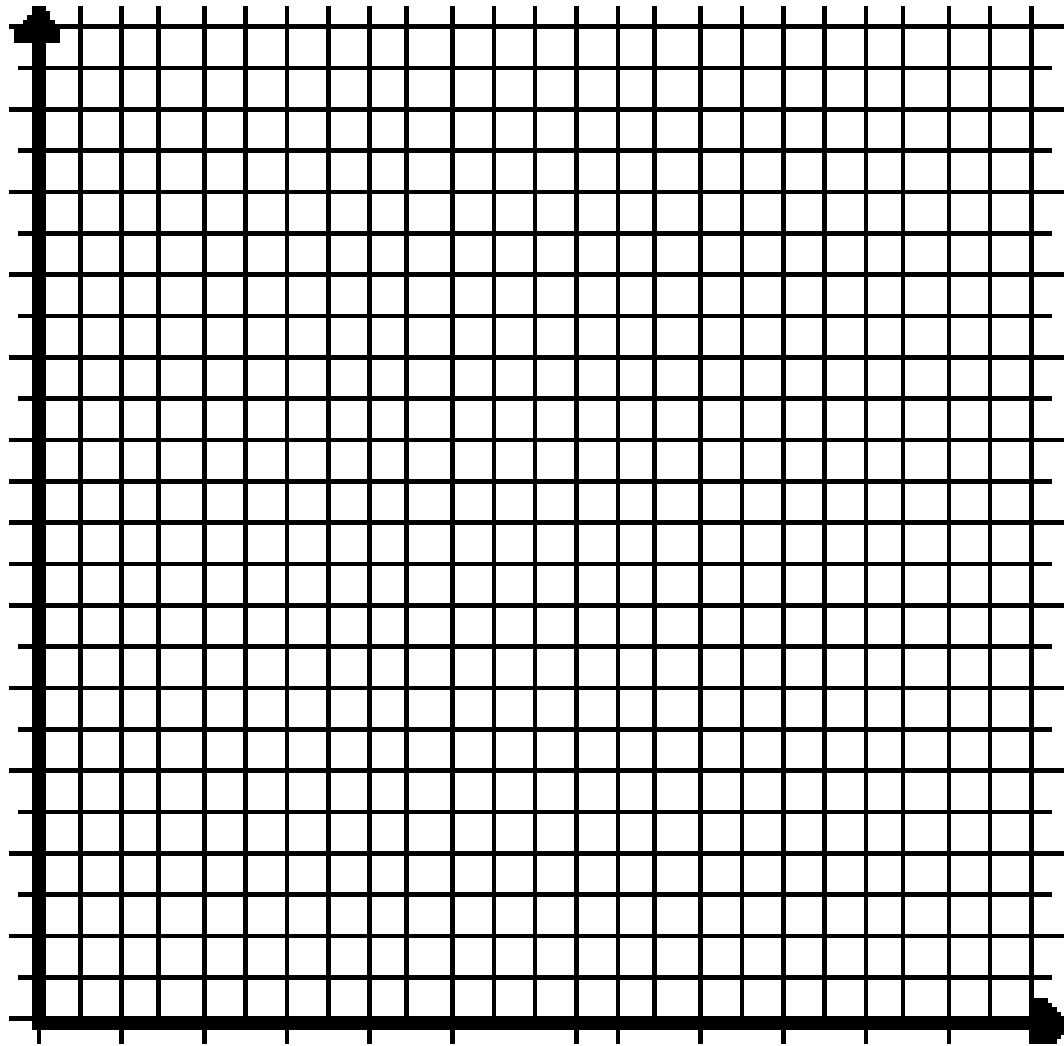# **Do Now**

The table shows a familiar pattern from geometry.

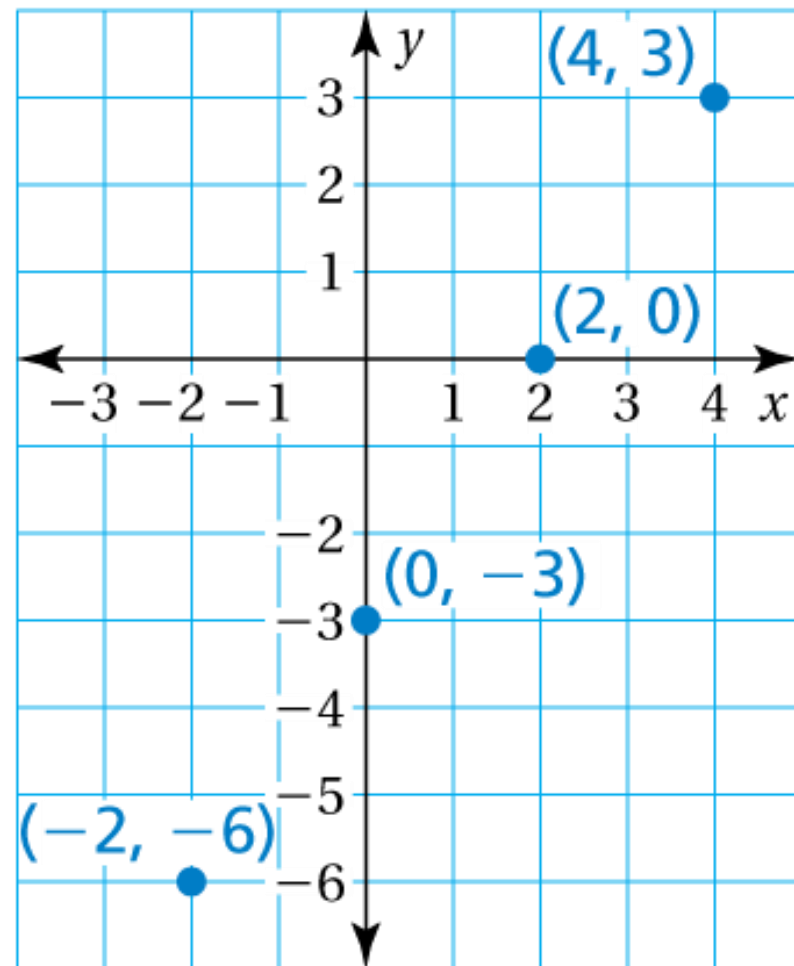| x	1	2	3	4	5
y	4	8	12	16	20

x

1. Write a function that relates y to x.

2. What do the variables x and y represent?

3. Graph the function.

3. Graph the function.

Linear Functions

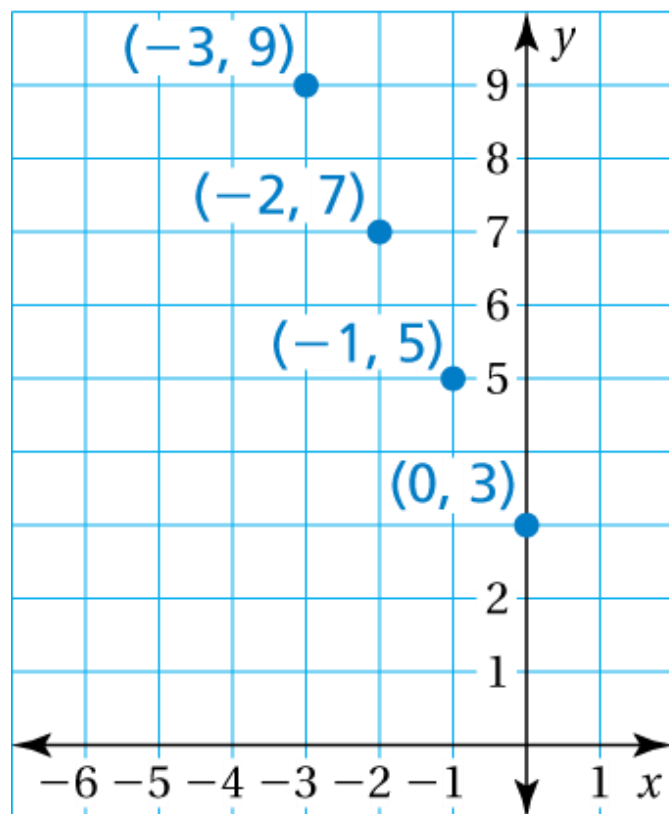**Use the graph to write a linear function that relates y to x.**

Linear Functions

Use the table to write a linear function that relates y to x.

x	-3	-2	-1	0
y	9	7	5	3

Using a graph:

Linear Functions

Use the table to write a linear function that relates y to x.

x	-3	-2	-1	0
y	9	7	5	3

Using the slope-intercept method:

Linear Functions

Use the graph to write a linear function that relates y to x.
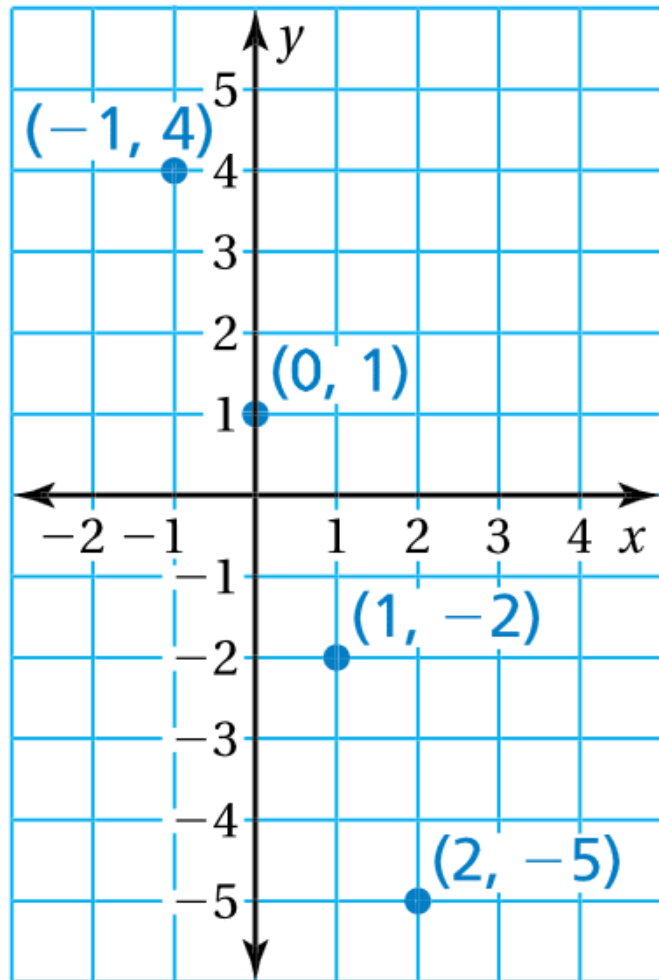
Linear Functions

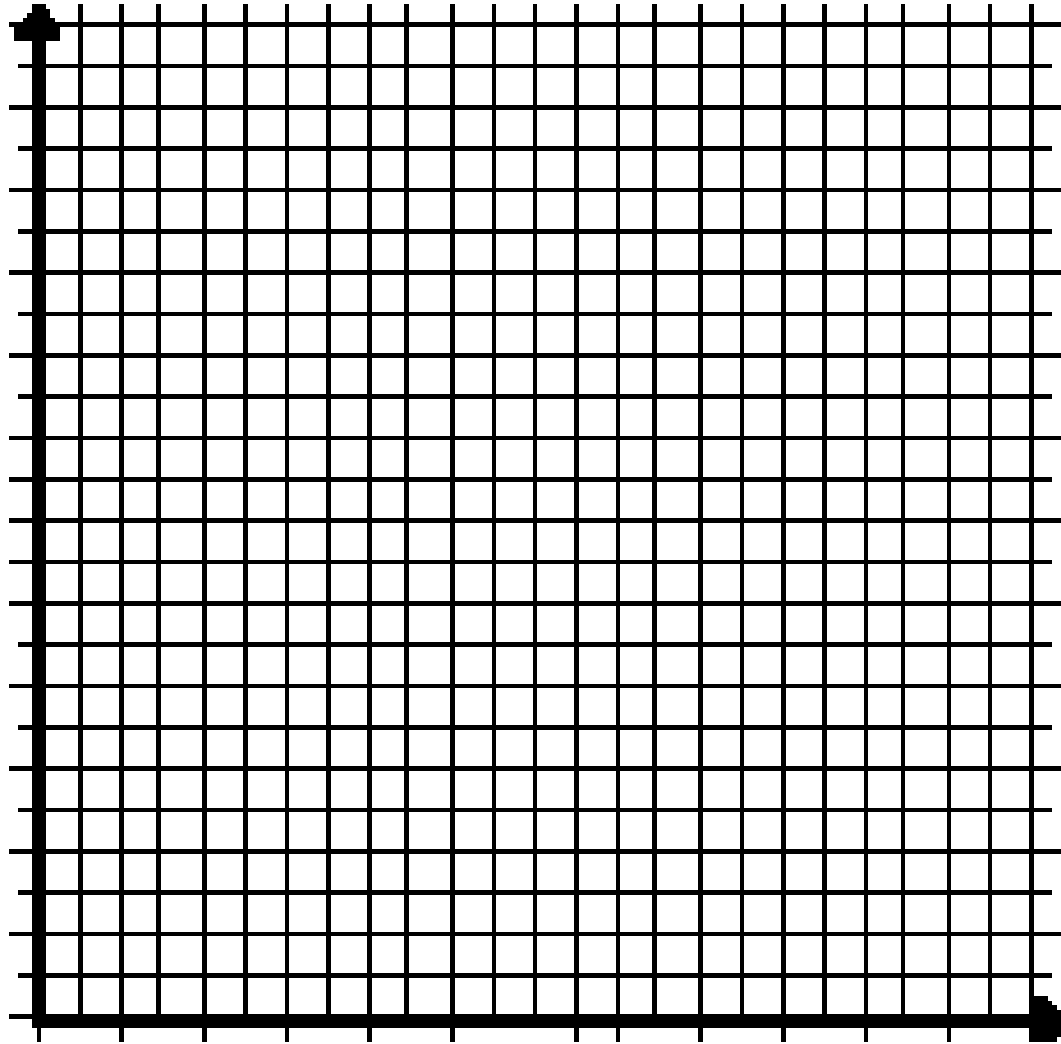Use the table to write a linear function that relates y to x.

x	−2	0	2	4
y	−2	−1	0	1

Linear Functions

The table shows the number *y* of calories you burn in *x* hours of jogging.

Hours Jogging, *x*	Calories Burned, *y*
2	800
4	1600
6	2400
8	3200

a. Write a linear function that relates *y* to *x*. Interpret the slope and the *y*-intercept.

b. Graph the linear function.

c. How many calories do you burn in 150 minutes?

Linear Functions

Linear Functions

Your earnings y (in dollars) for working x hours are represented by the function $y = 6x + 12$. The table shows the earnings of your friend.

Time (hours)	1	2	3	4
Earnings ($)	9	18	27	36

a. Who has a higher hourly wage?

b. Write a function that relates your friend's earnings to the number of hours worked. Graph both functions. Interpret the graphs.

Linear Functions