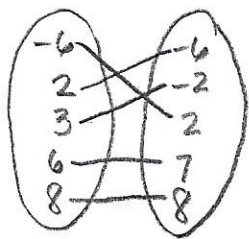
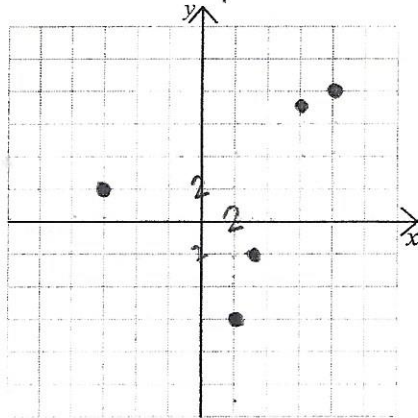


Express each relation as a table, a graph, and a mapping. Then determine the domain and range.

13. $\{(6, 7), (3, -2), (8, 8), (-6, 2), (2, -6)\}$

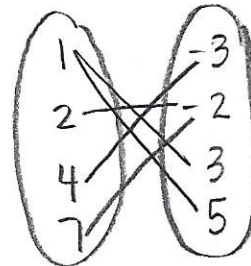
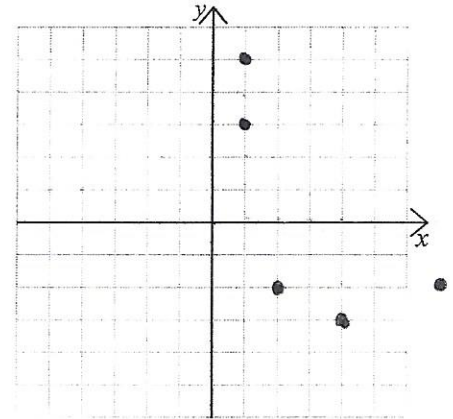
x	y
-6	2
2	-6
3	-2
6	7
8	8



$D: \{-6, 2, 3, 6, 8\}$
 $R: \{-6, -2, 2, 7, 8\}$

14. $\{(4, -3), (1/3), (7, -2), (2, -2), (1, 5)\}$

x	y
1	3
1	5
2	-2
4	-3
7	-2



$D: \{1, 2, 4, 7\}$
 $R: \{-3, -2, 3, 5\}$

Identify the independent and dependent variables for each relation.

15. The Spanish classes are having a fiesta lunch. Each student that attends is to bring a Spanish side dish or dessert. The more students that attend, the more food there will be. Independent: Students Dependent: Food

16. The faster you drive your car, the longer it will take to come to a complete stop. Independent: Speed Dependent: Stop time

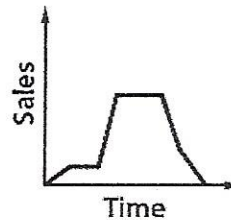
CCSS MODELING Describe what is happening in each graph.

17. The graph represents the height of a bungee jumper.



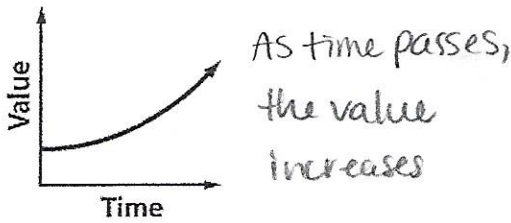
A bungee jumper gets strapped in, jumps then the cord bungees until he stops bouncing

18. The graph represents the sales of lawn mowers.

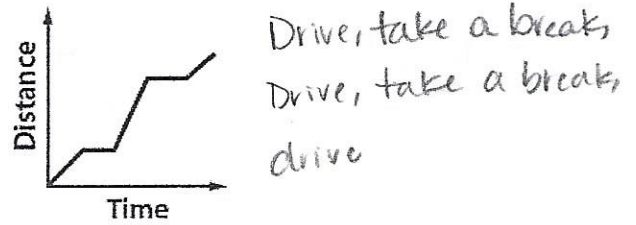


Sales steadily increase, then stall out when winter comes. Spring hits and sales soar until midsummer, then they steadily decline through fall

19. The graph represents the value of a rare baseball card.

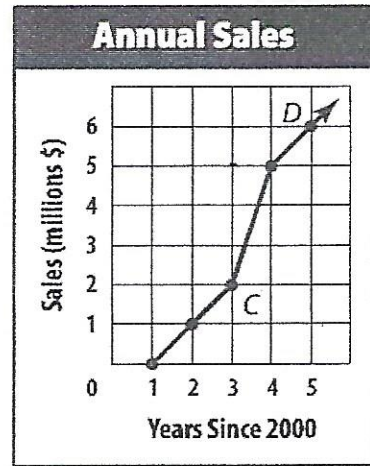


20. The graph represents the distance covered on an extended car ride.



For Exercises 24–26, use the graph at the right.

24. Name the ordered pair at point C and explain what it represents. (3,2) Sales were \$2 mill in 2003
25. Name the ordered pair at point D and explain what it represents. (5,6) Sales were \$6 mil in 2005
26. Identify the independent and dependent variables.



Independent: Years
Dependent: Sales

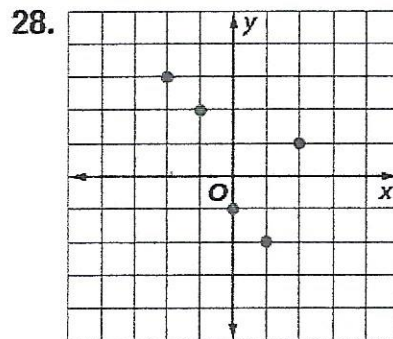
Express each relation as a set of ordered pairs. Describe the domain and range.

27. **Buying Aquarium Fish**

Number of Fish	Total Cost
1	\$2.50
2	\$4.50
5	\$10.50
8	\$16.50

D: {1, 2, 5, 8}
R: {2.50, 4.50, 10.50, 16.50}

{(1, 2.50), (2, 4.50), (5, 10.50), (8, 16.50)}

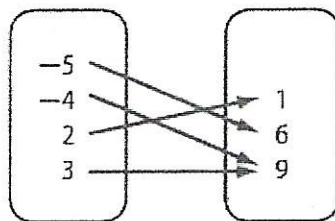


{(-2, 3), (-1, 2), (0, -1), (1, -2), (2, 1)}

D: {-2, -1, 0, 1, 2}

R: {-2, -1, 1, 2, 3}

30. Domain Range

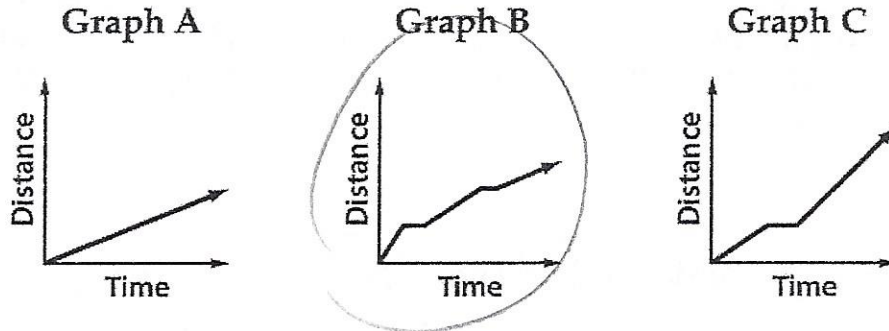


{(-5, 6), (-4, 9), (2, 1), (3, 9)}

D: {-5, -4, 2, 3}

R: {1, 6, 9}

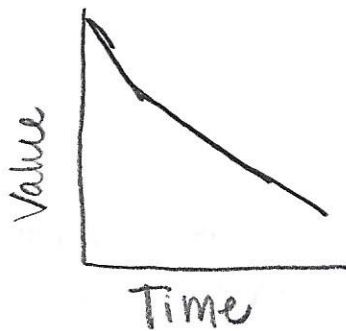
32. **SPORTS** In a triathlon, athletes swim 2.4 miles, bicycle 112 miles, and run 26.2 miles. Their total time includes transition time from one activity to the next. Which graph best represents a participant in a triathlon? Explain.



B. It shows distance increasing with 2 resting places where athletes are in transition.

Draw a graph to represent each situation.

34. **CAR** A car depreciates in value. The value decreases quickly in the first few years.



36. **EXERCISE** An athlete alternates between running and walking during a workout.



37 **PHYSIOLOGY** A typical adult has about 2 pounds of water for every 3 pounds of body weight. This can be represented by the equation $w = 2\left(\frac{b}{3}\right)$, where w is the weight of water in pounds and b is the body weight in pounds.

a. Make a table to show the relation between body and water weight for people weighing 100, 105, 110, 115, 120, 125, and 130 pounds. Round to the nearest tenth if necessary.

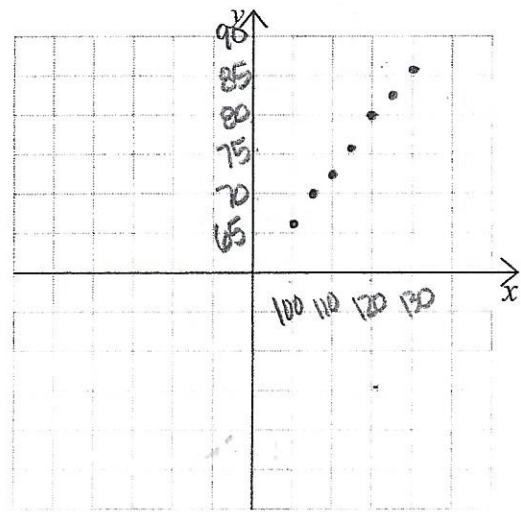
b. What are the independent and dependent variables?

Independent: Weight Dependent: water

c. State the domain and range, and then graph the relation.

x	y
100	66.7
105	70
110	73.3
115	76.7
120	80
125	83.3
130	86.7

$D: \{100, 105, 110, 115, 120, 125, 130\}$
 $R: \{66.7, 70, 73.3, 76.7, 80, 83.3, 86.7\}$



d. Reverse the independent and dependent variables. Graph this relation. Explain what the graph indicates in this circumstance.

The inverse is a function.

