



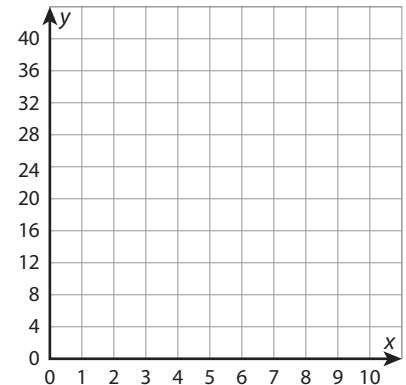
Analyzing the Relationship Between Two Variables

► Solve each problem.

- 1 Beth and Kristin leave their homes at the same time to visit a water park. They both drive at the same rate. The equation $b = k + 2$ models Beth's distance in miles, b , from the park in terms of Kristin's distance in miles, k , from the park.
- Determine the independent and dependent variables in the situation.
 - Use the equation to complete the table.
 - How does Beth's distance change when Kristin's distance decreases by 5 miles? Show your work.

Kristin's Distance from Park (k)	Beth's Distance from Park (b)
20	
18	
16	
14	

- 2 The equation $c = 8n$ models the total cost, c , for n movie tickets.
- Graph the relationship modeled by the equation. Be sure to label the axes.
 - How does the graph show the cost per ticket? How is this cost related to the equation?





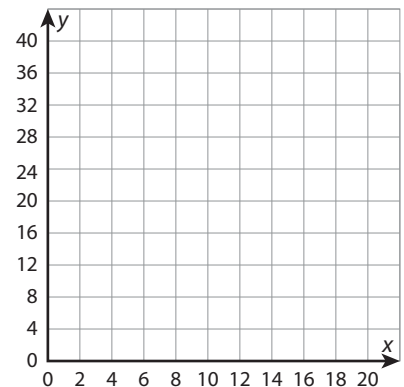
LESSON 22

Analyzing the Relationship Between Two Variables *continued*

- 3 Ryan runs cross-country. The equation $d = 200t$ models the distance, d , in meters Ryan runs in t minutes.
- Determine the independent and dependent variables in the situation.
 - Use the equation to complete the table.
 - Which of the points (6, 1200) or (4, 1400) could be in the table? Explain your answer and tell what this point means in the context of the problem.

Time (t)	Distance (d)
0	
1	
2	
3	

- 4 The equation $y = x + 4$ models the total height of a picture in its frame, y , in centimeters with respect to the height of the picture, x , in centimeters.
- Graph the relationship modeled by the equation. Be sure to label the axes.
 - If the graph continues, will the point (28, 24) be on the graph? Explain your reasoning.



- Determine the height of a picture when the total height of the picture with the frame is 38.5 cm. Show your work.