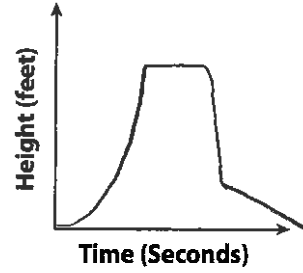


**EXERCISES**

1. Sketch a graph that represents the following situation. A person gets on a ride at an amusement park. The ride rises slowly and then quickly to its highest point. Then, to build anticipation, the ride stops for a period of time before quickly falling. Then, the ride descends more slowly before coming to a stop. (Lesson 3.1)
2. Identify the independent and dependent variables of the following relation. Give the domain and range, and explain whether the relation is a function.



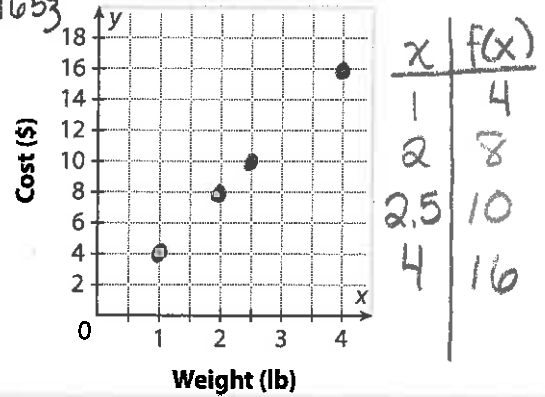
A farmer has up to 3 pigs at a time on his farm. The given relation represents the average number of pounds of feed needed for  $x$  pigs daily. (Lesson 3.2)

Number of Pigs, $x$	Pounds of Feed, $y$
1	55
2	110
3	165

Indep = # of Pigs  
 Dep = Pounds of Feed  
 Domain  $\{1, 2, 3\}$   
 Range  $\{55, 110, 165\}$   
 Function.

3. A store sells roasted peanuts in 1, 2, 2.5, and 4 pound bags. The peanuts cost \$4 per pound. Write an equation in function notation that represents the cost of the peanuts in terms of the number of pounds, and graph the function. (Lessons 3.3, 3.4)

$f(x) = 4x$



**MODULE PERFORMANCE TASK**

**Season Passes**

Wild Planet Theme Park offers three season-pass purchase options.

Plan A	Plan B	Plan C
One payment of \$500	\$80 down payment 6 payments of \$75 every other month	\$60 down payment 11 monthly payments of \$45

Which payment option is the least expensive?

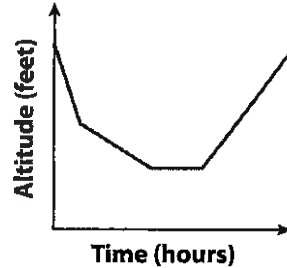
Use your own paper to complete the task. Be sure to write down all your data. Then use graphs, numbers, words, or algebra to explain how you reached your conclusion.

# Ready to Go On?

## 3.1–3.4 Functions and Models

1. The graph shown represents the altitude of a hiker during a period of time. Write a possible situation represented by the graph. (Lesson 3.1)

A hiker runs halfway down a mountain, then walks the rest of the way. He/she pauses for lunch and hikes up another mountain.



2. Use the vertical line test to determine if the relation represented on the graph from Exercise 1 is a function. Explain. (Lesson 3.2)

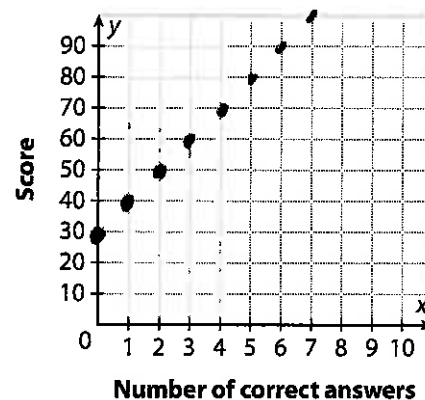
Yes, each vertical line only passes through the graph once.

3. A math test is made up of 7 problems, each worth 10 points. There is no partial credit. Every test taker receives 30 points for taking the test. Write a function to describe the test score determined by the number of correct answers. Graph the function using a reasonable domain and range. (Lessons 3.3, 3.4)

$$f(x) = 30 + 10x$$

$$\text{Domain } \{0, 1, 2, 3, 4, 5, 6, 7\}$$

$$\text{Range } \{30, 40, 50, 60, 70, 80, 90, 100\}$$



### ESSENTIAL QUESTION

4. What is a function?

A relation in which each input is paired with exactly one output.



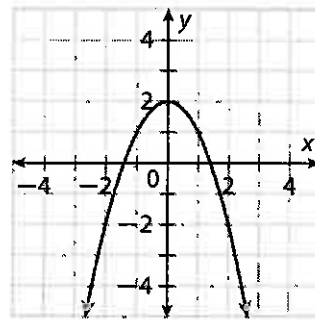
**MODULE 3**  
**MIXED REVIEW**

# Assessment Readiness

1. Kyle is installing new baseboards and carpet in his rectangular living room. He measured the length as 24.25 feet and the width as 16.4 feet. Select Yes or No for each statement.

- A. The length is a more precise measurement.  Yes  No
- B. The area of the room should be given with 3 significant digits.  Yes  No
- C. The perimeter of the room should be given with 4 significant digits.  Yes  No

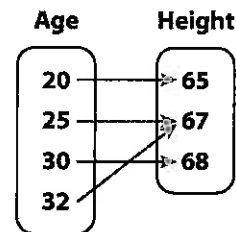
2. The graph represents the function  $f(x) = -x^2 + 2$ . Select True or False for each statement.



- A. When  $x = 1$ ,  $f(x) = 1$ .  True  False
- B. When  $f(x) = 2$ ,  $x = -2$ .  True  False
- C. When  $x = -1$ ,  $f(x) = 1$ .  True  False

3. The mapping diagram represents the age, in years, and height, rounded to the nearest inch, of a group of friends. Does the diagram represent a function? Explain your answer.

*yes, each x is paired w/ exactly one y.*



4. An amusement park charges an entrance fee of \$25 plus \$3.50 per ride. Write a function to represent this situation. How much would it cost to go to the park and ride 8 rides?

$$f(x) = 25 + 3.5x$$

$$f(8) = 25 + 3.5(8)$$

$$f(8) = 53$$

*\$53*