

Chapter 3 Review

Vocabulary Review

continuous data (p. 100)
discrete data (p. 100)
function (p. 87)
function rule (p. 87)

linear (p. 82)
linear function (p. 99)
nonlinear (p. 82)
nonlinear function (p. 104)

parabola (p. 104)
proportional relationship
(p. 92)
quadratic function (p. 104)

Choose the correct vocabulary term to complete each sentence.

1. A ? is a rule that assigns to each input value exactly one output value.
2. A relationship between inputs and outputs in which the ratio of inputs and outputs is always the same is a ?.
3. A function whose points lie on a straight line when the function is graphed is a ?.
4. Functions whose graphs are not straight lines are ?.
5. Data that involve a count of items is ?.

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For vocabulary quiz
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Skills and Concepts

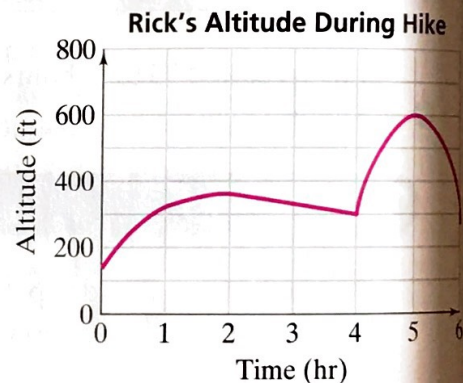
Lesson 3-1

- To interpret and sketch graphs that represent real-world situations

Drawing a graph makes it easier to analyze data. You can use a line graph to see if data is increasing or decreasing and if change in data is linear or nonlinear.

Use the graph below for Exercises 1–4.

1. When during the hike is Rick's altitude increasing?
2. When during the hike is Rick's altitude decreasing?
3. When during the hike does Rick's altitude appear linear?
4. When during the hike does Rick's altitude appear nonlinear?



Lesson 3-2

- To evaluate functions and complete input-output tables

A **function** is a rule that assigns to each input value exactly one output value.

A **function** rule is an equation that describes a function.

You can use a function rule to evaluate a function. Functions have input variables and output variables

Use the function rule $d = 3t - 1$. Find each output.

5. $t = 2$
6. $t = 8$
7. $t = -4$
8. $t = 20$
9. $t = -5$

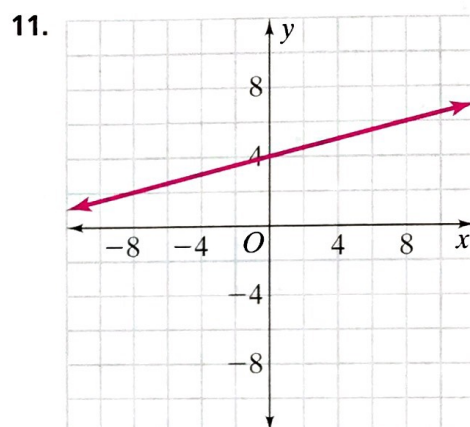
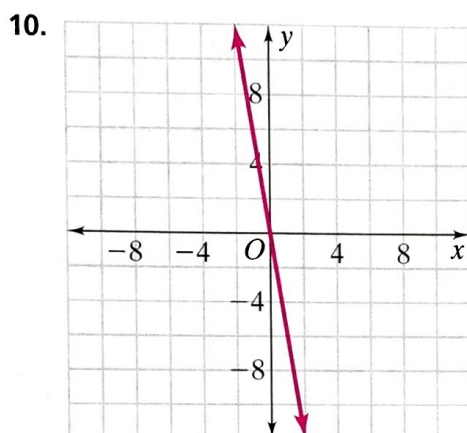
Lesson 3-3

- To determine if relationships are proportional

A **proportional relationship** is a relationship between inputs and outputs in which the ratio of inputs and outputs is always the same.

Graphs of the functions with proportional relationships pass through or touch the origin.

Determine if the graph represents a function with a proportional relationship.



Lessons 3-4, 3-5

- To recognize linear functions and use tables and equations to graph them
- To identify nonlinear functions

A **linear function** is a function whose points lie on a straight line when the function is graphed.

Discrete data are data that involve a count of items.

Continuous data are data where numbers between any two data values have meaning.

Nonlinear functions are functions whose graphs are not straight lines.

Determine if the function represented by the table or graph is linear or nonlinear.

12.

x	1	2	3	4
y	1	8	27	64

13.

x	9	7	5	3
y	1	10	19	28

