

Practice 6.3

Tell whether each table of values represents a linear or nonlinear function.

1

x	3	5	7	9
y	6	12	18	24

2

x	-15	-10	-5	20
y	12	8	4	-16

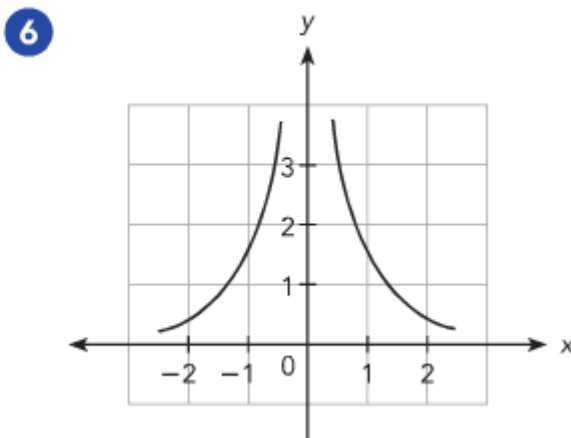
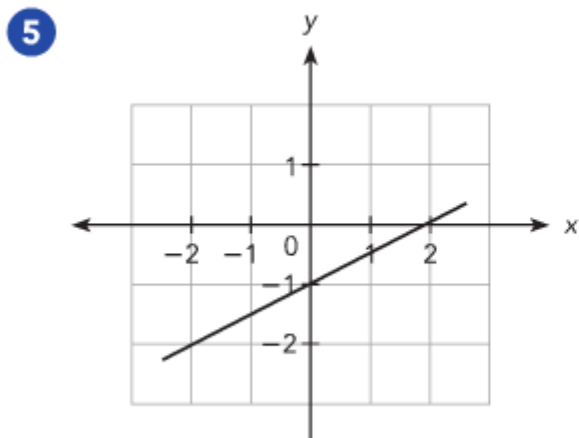
3

x	-8	-3	8	27
y	-2	-1	2	3

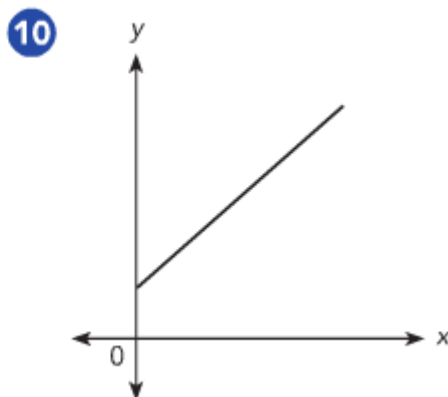
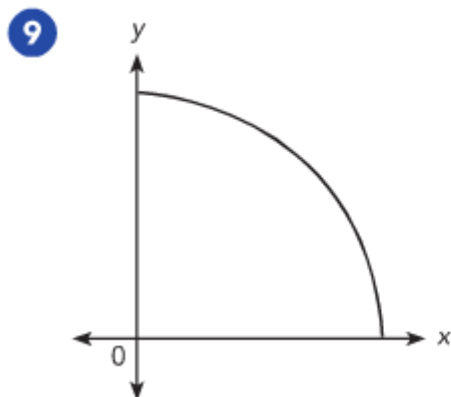
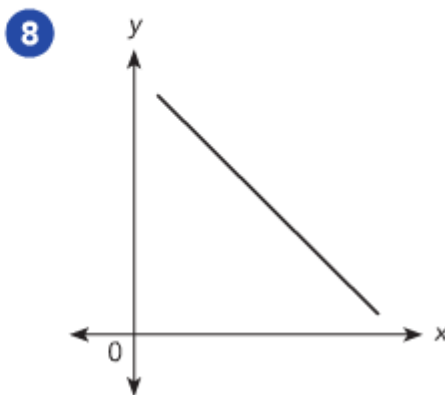
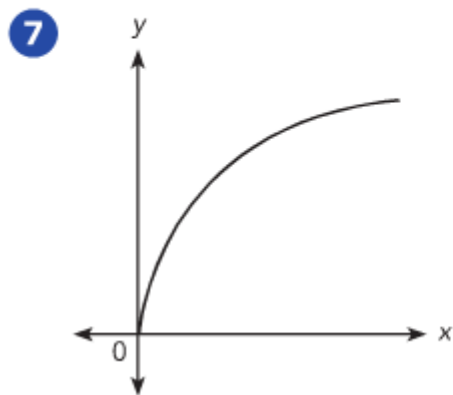
4

x	-8	-6	-2	2
y	-1	-4	2	8

Tell whether each graph represents a linear function. If so, find the rate of change.



Tell whether each function is linear or nonlinear. Then tell whether the function is increasing or decreasing.



Describe the function. Sketch a graph for the function.

- 11** A machine at a factory pours juice into bottles at a constant rate of 6 liters per minute. The total amount of juice poured, y liters, is a function of the number of minutes that the juice is poured, x .
- Give the least possible input value and the corresponding output value. Tell whether the function is linear or nonlinear. Then tell whether the function is increasing or decreasing. Explain.
 - Sketch a graph for the function.
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- 12** Aidan was 100 miles from Town P. He traveled to Town P by car at a constant speed. The distance from Town P, y miles, is a function of the traveling time, x hours.
- Give the least possible input value and the corresponding output value. Tell whether the function is linear or nonlinear. Then tell whether the function is increasing or decreasing. Explain.
 - Sketch a graph for the function.

Solve. Use graph paper.

- 13** The table shows the number of students, y , as a function of the number of teachers, x .

Input, Number of Teachers (x)	4	5	6	10
Output, Number of Students (y)	100	125	150	250

- a) Tell whether the function is linear or nonlinear. Then tell whether the function is increasing or decreasing. Explain.
- b) Graph the table of values and draw a line through the points. Use 1 unit on the horizontal axis to represent 1 teacher for the x interval, and 1 unit on the vertical axis to represent 25 students for the y interval from 100 to 250. Do the coordinates of every point on the line make sense for the function? Explain.
- 14** A cyclist starts riding from home to another town. His cycling speed, y miles per hour, is a function of the amount of time he takes to cycle, x hours.

Input, Time Taken (x hours)	1	2	3	4	6
Output, Cycling Speed (y miles per hour)	12	6	4	3	2

- a) Tell whether the function is linear or nonlinear. Then tell whether the function is increasing or decreasing. Explain.
- b) Graph the table of values and draw a curve through the points. Use 1 unit on the horizontal axis to represent 1 hour for the x interval, and 1 unit on the vertical axis to represent 1 mile per hour for the y interval. Do the coordinates of every point on the curve make sense for the function? Explain.