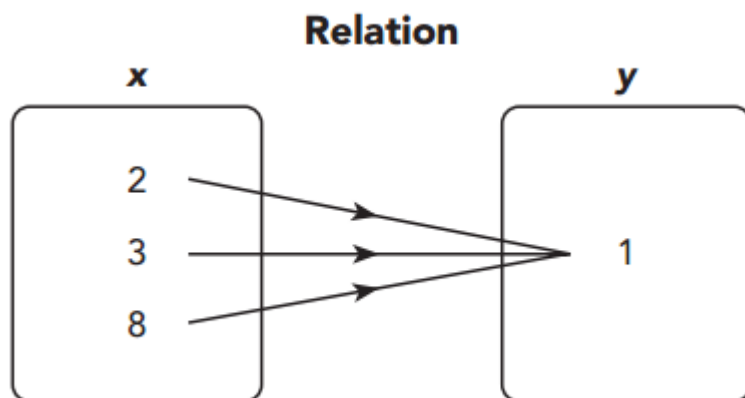# 6 Functions

Concepts and Skills (Questions 1 and 2: 2 × 1 point = 2 points, Questions 3 to 6: 4 × 2 points = 8 points)

Given the relation described, identify the input and the output.

1. Alison wants to find the total cost of buying 4 adult admission tickets to an amusement park.

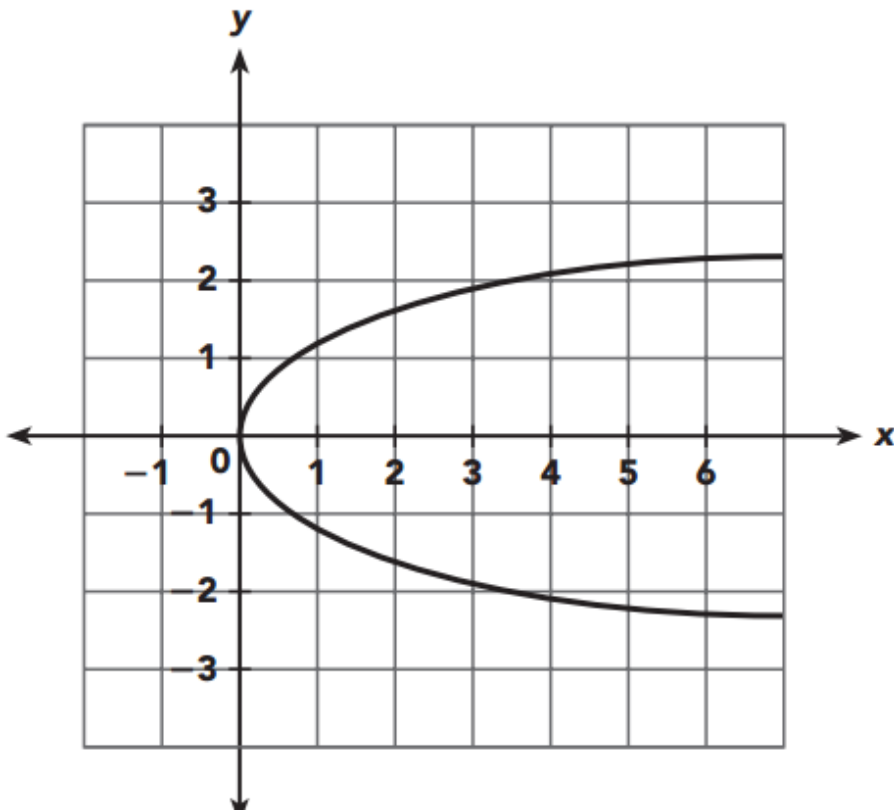2. Bruce wants to find the volume of a sphere given its radius.

Based on the mapping diagrams, state the type of relation. Tell whether the relation is a function. Explain.

3.   **Relation**

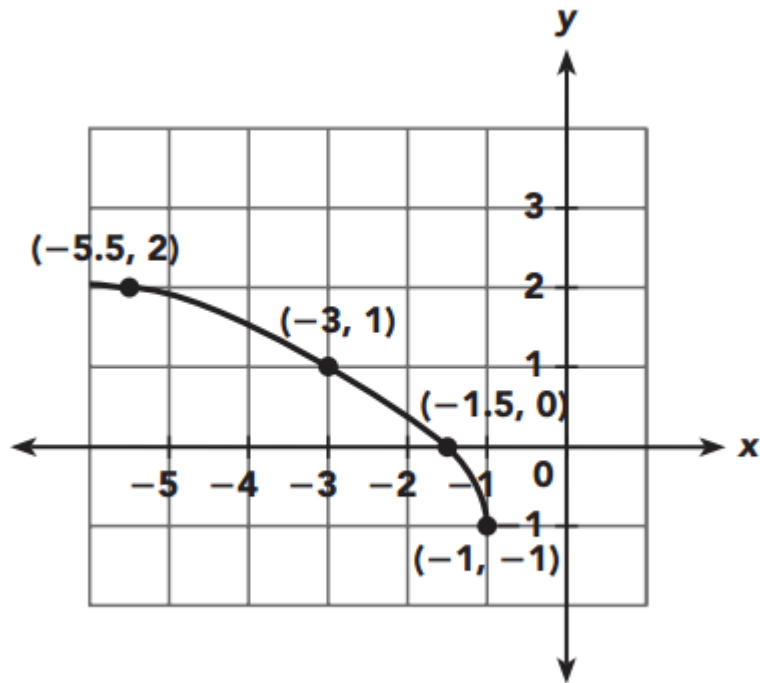**Tell whether the relation represented by the graph is a function. Explain.**

4.

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

5. A barrel contains 5 gallons of water. Water is then added to the barrel at a constant rate of 0.1 gallon per minute.

6.

The graph shows a curve with labeled points: $(-5.5, 2)$, $(-3, 1)$, $(-1.5, 0)$, and $(-1, -1)$.

Solve. Show your work.

7. The table shows the value of Mr. Washington's car, y dollars, over x years.

Year (x)	0	1	2	3	4	5
Car Value (y dollars)	15,000	13,000	11,000	9,000	7,000	5,000

a) Write an algebraic equation to represent the function.

b) Give the least possible input value and give the corresponding output value. Explain what it represents in this situation.

c) Tell whether the function is increasing or decreasing. Then tell whether the function is linear or nonlinear. Explain.

Chapter Review/Test

Concepts and Skills

Given the relation described, identify the input and the output.

1 Daphne wants to find the area of a circle given its radius.

2 Mr. Reynard wants to find the total cost of the number of items he bought at a store where everything costs one dollar.

3 The head of the English department wants to see how each student in Grade 8 does on an English test.

Based on the mapping diagrams, state the type of relation. Tell whether each relation is a function.
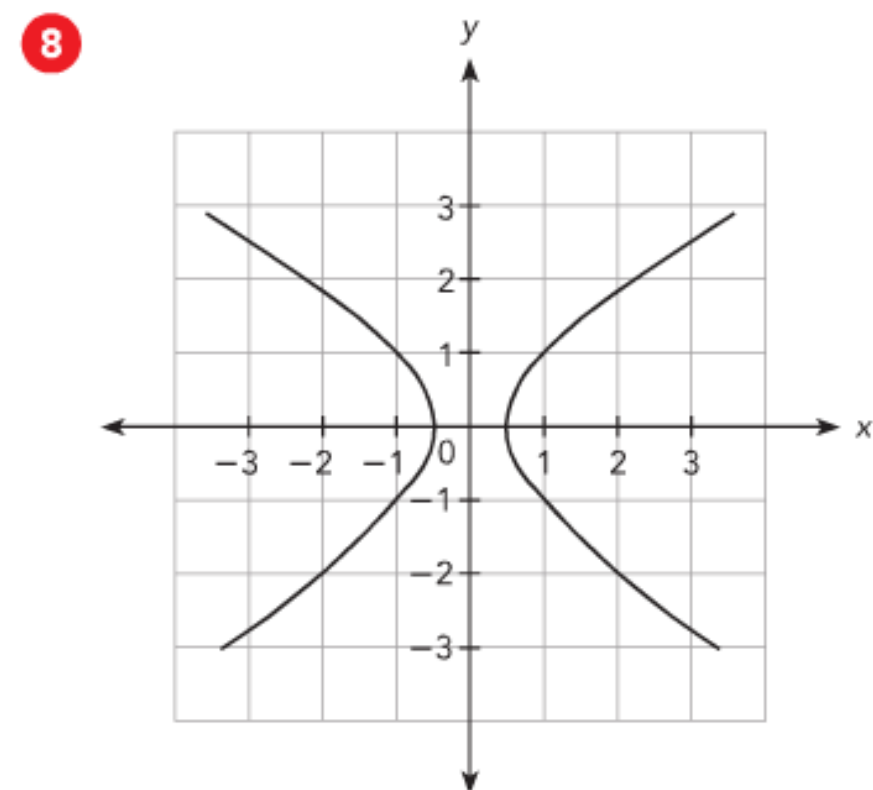
4 Type of Flower   Relation   Color

5 Shoe Size   Relation   Name
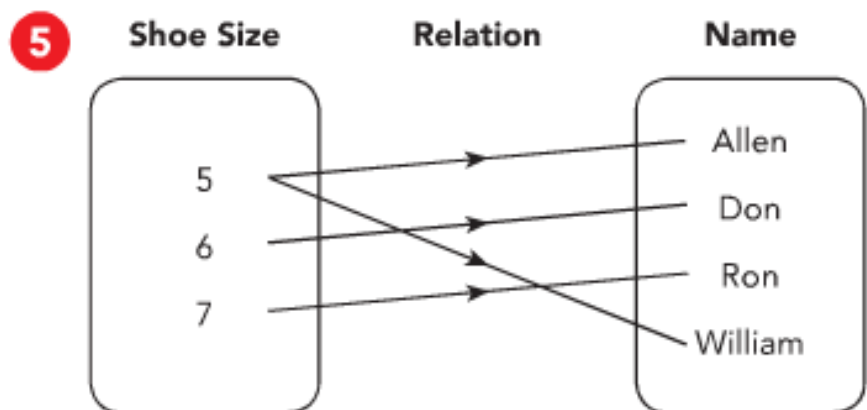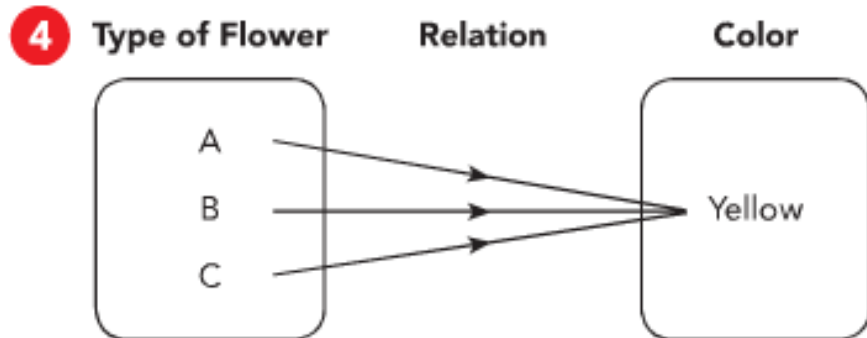
Tell whether each relation is a function.

6

Side Length (cm)	4	5	8	9
Perimeter (cm)	16	20	32	36

7

Month	Jan	Feb	May	Jul	Sep	Oct	Nov	Dec
Number of Public Holidays	2	1	1	1	1	1	2	1

8

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

10

Input, x	2	3	5	6
Output, y	1,500	600	150	60

Other Ways to Study….

*Review Function Problems in Math Warm Up

*Review Practice 6.1, 6.2 , 6.3 and 6.4 Practice Pages