Name:_____

Practice 6.1

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

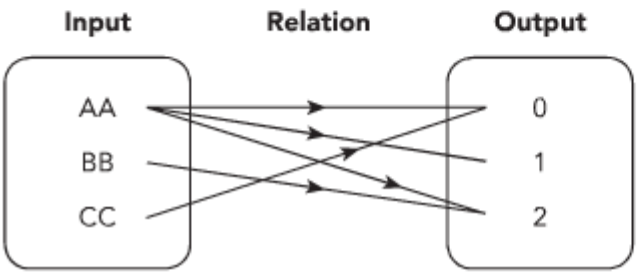
1. Mrs. Thomas wants to find out the price charged for the same stereo speaker at different stores.

2. Five students, Jessie, Patrick, Wayne, Colin, and Susie, have different heights. Their teacher wants to know their heights.

3. Ginny wants to know what after-school activities each of her friends signed up for so she knows whether she shares the same interests.

Based on the mapping diagram, state the type of relation.

4.



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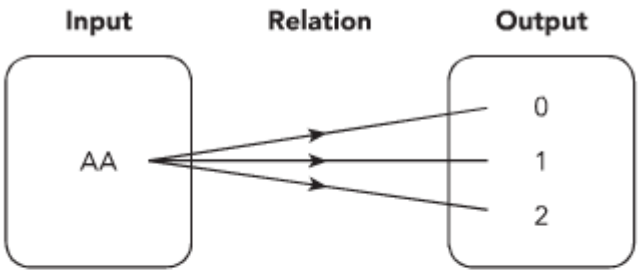

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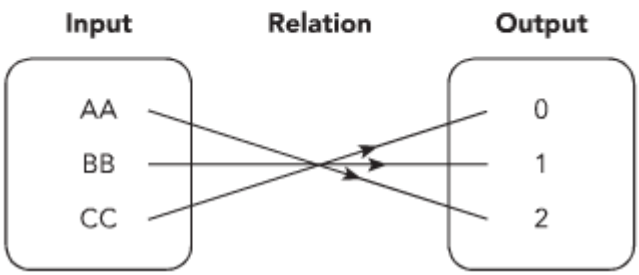

Draw a mapping diagram to represent each relation. Then identify each type of relation.

7. The table shows the numbers of various types of fruit sold in a supermarket. Draw a mapping diagram to represent the relation between each fruit and the number sold by the supermarket. Identify the type of relation between the fruit and the number sold.

Input, Fruit	Apple	Apricot	Lemon	Orange	Papaya
Output, Number Sold	256	187	256	256	93

8 The table shows the scores of a soccer team playing in eight different games. Each game is represented by a number.

Input, Score	3	2	1	0	2	1	3	2
Output, Game	1	2	3	4	5	6	7	8

Draw a mapping diagram to represent the relation between the score for each game and the game number. Identify the type of relation between the score and the game number.

Tell whether each statement is True or False. Explain.

9 A function is a type of relation.

10 All relations are functions.

11 Only a many-to-one relation is a function.

12 A one-to-many relation is a function.

Identify the type of relation in each mapping diagram. Then tell whether the relation is a function. Explain.

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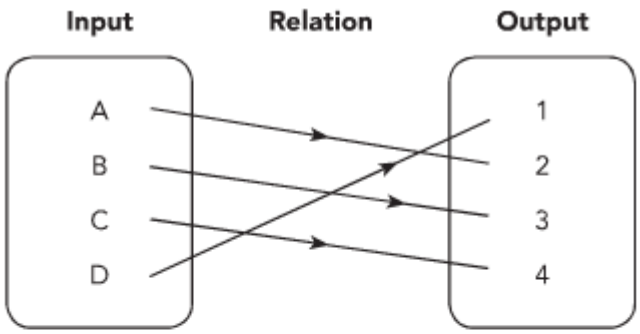

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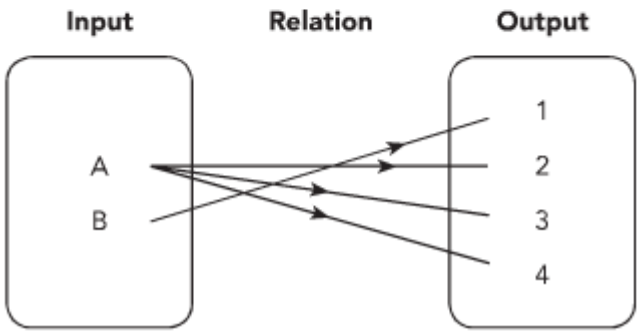

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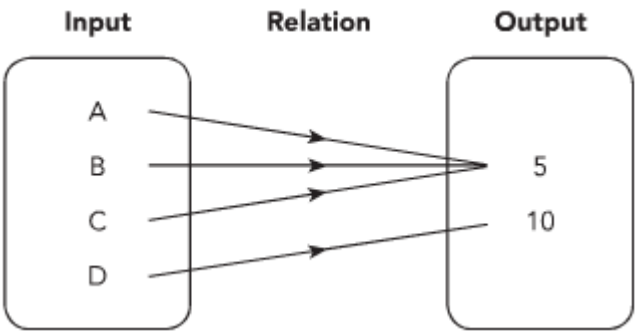

Tell whether the relation represented by each graph is a function. Explain.

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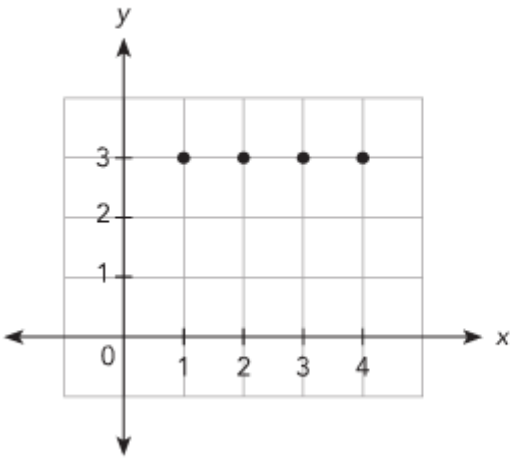

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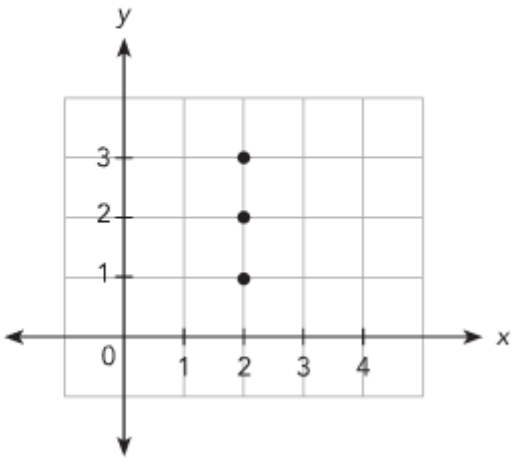

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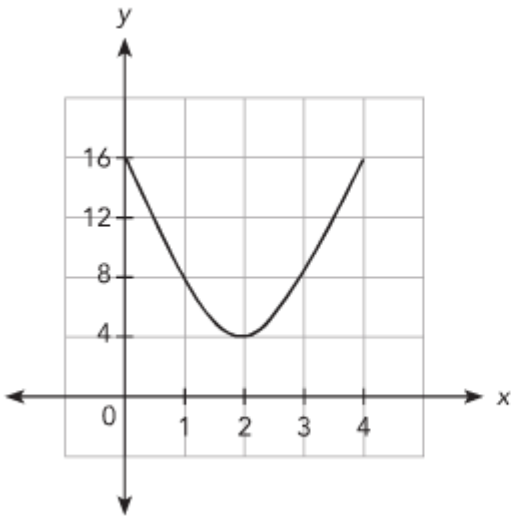

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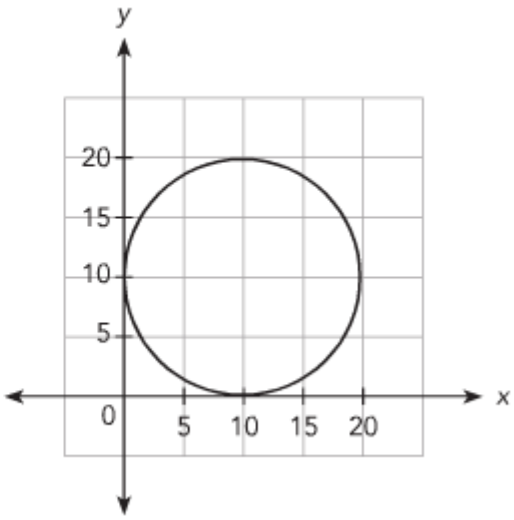

Tell whether the relation described is a function. Use a graph to support your answer.

20 The cost, y dollars, of some cheese that costs \$3 per pound varies directly with the weight, x pounds, of the cheese. Use 1 unit on the horizontal axis to represent 1 pound for the x interval from 0 to 6, and 1 unit on the vertical axis to represent \$3 for the y interval from 0 to 18.

21 A tank contains 3 liters of water. The water in the tank is draining out at a rate of 0.5 liter per hour. Use 1 unit on the horizontal axis to represent 1 hour for the x interval from 0 to 6, and 1 unit on the vertical axis to represent 0.5 liter for the y interval from 0 to 3.0.

22 A veterinarian weighed some puppies to see if weight depends on age. The table shows the ages, x months, and the weights, y pounds, of the puppies. Use 1 unit on the horizontal axis to represent 1 month for the x interval, and 1 unit on the vertical axis to represent 1 pound for the y interval.

Input, Age (x months)	2	3	5	5	6
Output, Weight (y pounds)	1	2	4	5	7

Solve. Show your work.

23 The table shows the number of computers the students have and the number of students in eight schools.

Input, Number of Computers	450	510	563	565	615	615	1,050	1,050
Output, Number of Students	600	680	750	770	820	825	1,400	1,800

a) Draw a mapping diagram to represent the relation between the number of computers and the number of students.

b) From the mapping diagram, identify the relation between the number of computers and the number of students.

c) Tell whether the relation represented by the mapping diagram is a function. Explain.

24 *Math Journal* Is the relationship between the side length of a square and the area of the square an example of a function? Explain.

The table below shows the number of books sold by each of six bookstores and the sales made by each store in a week. Use the table to answer questions 25 to 27.

Bookstore	A	B	C	D	E
Number of Books Sold	523	702	523	982	754
Sales	$2,569	$869	$2,317	$5,032	$869

25 Draw a mapping diagram to represent a relation between the bookstores and the number of books they sold in the week. Identify the type of relation between the bookstores and the number of books sold. Then tell whether the relation represented by the mapping diagram is a function. Explain.

26 Draw a mapping diagram to represent the relation between the sales made by the bookstores and the number of books sold in the week. Identify the type of relation between the sales made by the bookstores and the number of books sold. Then tell whether the relation represented by the mapping diagram is a function. Explain.

27 *Math Journal* The store owners want to know if the relation between the number of books sold and the sales made by the bookstores is a function.

a) Draw a mapping diagram, with the number of books sold as the input, and the sales made by each bookstore as the output. Is the relation a function? Explain.

b) Why might one bookstore get more money for selling the same number of books as another bookstore?