

CHAPTER



Functions

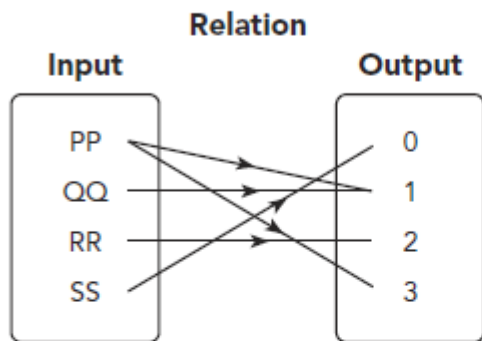
Lesson 6.1 Understanding Relations and Functions

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

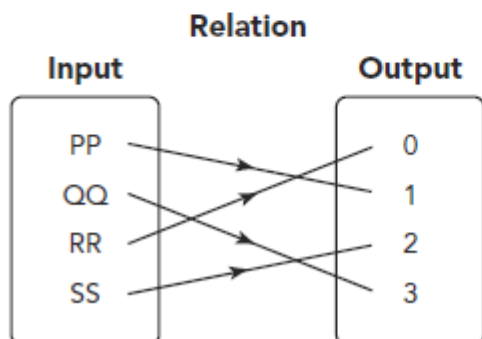
1. Fred wants to know his weekly salary when he works for a certain number of hours per week at a constant hourly pay rate.
2. In an experiment, Josie wants to find out how the length of a shadow changes during different times of the day.
3. Mr. Warren wants to know how many miles he can drive his car for various gallons of gasoline in his car's fuel tank.

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

4.



5.



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

6. Mrs. Manuel carried out a survey to find out the favorite colors of her students so that she could hand make some personalized-colored bookmarks as gifts. The table shows the color preference of each student in her class.

Input, Favourite Colors	Red	Blue	Yellow	Violet	Green
Output, Number of Students	6	10	3	3	3

7. The table shows the number of signatures collected each day for seven days by a citizen wanting to run for town council.

Input, Number of Signatures	55	43	55	30	75	55	62
Output, Day	1	2	3	4	5	6	7

Draw a mapping diagram to represent the relation between the number of signatures collected on each day. Identify the type of relation between the number of signatures and the day.

Tell whether each statement is True or False. Explain.

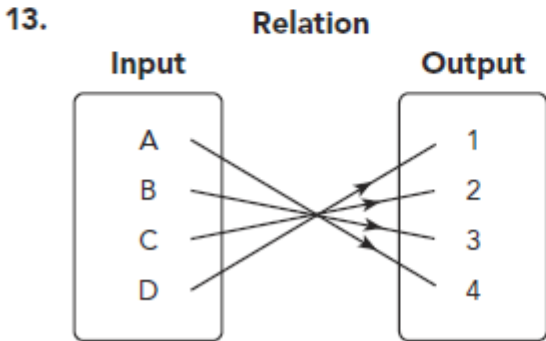
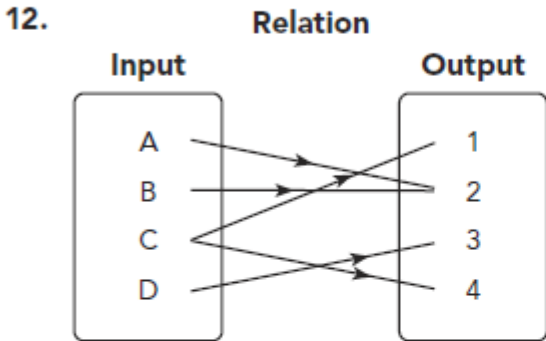
8. A one-to-one relation is always a function.

9. A function is a special type of relation.

10. When Martha clicks on any of the icons in a folder on her computer, it will open only the file that she clicks on. She says the folder represents a function.

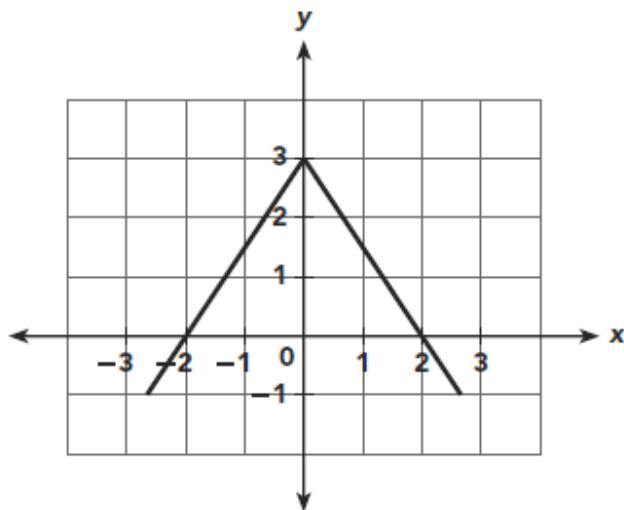
11. In a relation where the input is the age of students in a class and the output is the height of the students, the relation is a function.

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

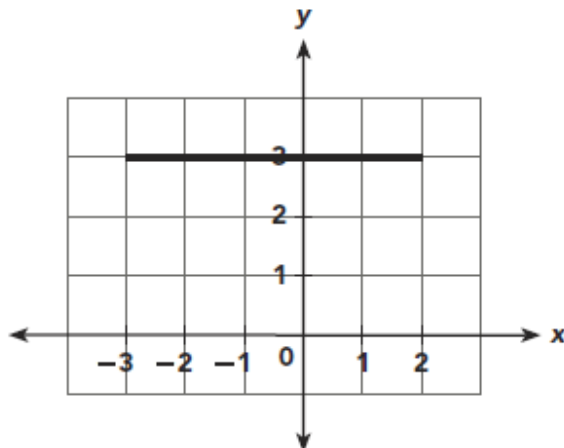


Tell whether the relation represented by each graph is a function. Explain.

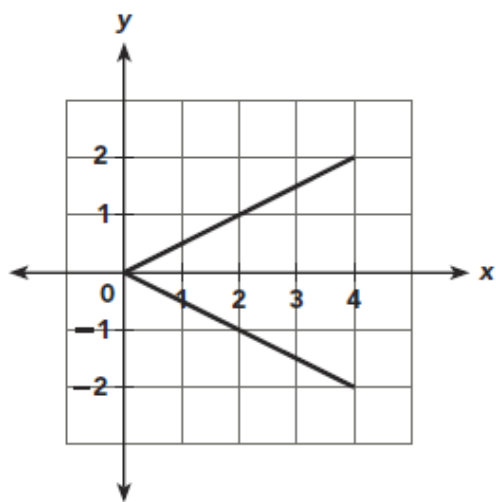
14.



15.



16.



17.

