## NAME

Module 9 Using Functions
Lesson 1 Defining Relations and Functions

## DATE

## Set 1

1. Find the domain and range of the relation represented by the set

$$
M=\{(-1,2),(-1,4),(0,5),(3,-7)\}
$$

2. Graph on the coordinate plane the relation represented by the following mapping diagram:


3. Find the domain and range of the relation given by the equation $y=x^{2}$.
4. The relation given by the equation $y=x-3$ has a domain of $\{-1,0,1\}$. Find the range. $\qquad$

## Set 2

1. How are relations and functions alike? How are they different?
$\qquad$
$\qquad$
$\qquad$
2. Explain why the vertical line test can be used to determine whether a graph represents a function. $\qquad$
$\qquad$
$\qquad$
$\qquad$
3. Which of the following relations are functions? Write Yes if it is a function or No if it is not a function. Then give a reason for your choice.
a)

b) $T=\{(0,4),(5,4),(0,1)\}$
c)

| $x$ | $y$ |
| :---: | ---: |
| 0 | 0 |
| 1 | 9 |
| 2 | 18 |

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