

Paper Practice 3.1: Representing Relations

Express each relation as a table, a graph, and a mapping. Then determine the domain and range.

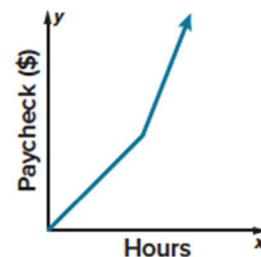
1. $\{(-1, -1), (1, 1), (2, 1), (3, 2)\}$

2. $\{(0, 4), (-4, -4), (-2, 3), (4, 0)\}$

3. $\{(3, -2), (1, 0), (-2, 4), (3, 1)\}$

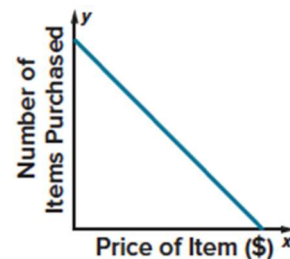
4. **PAYCHECK** The graph represents the amount of Seth's paycheck for different numbers of hours he works.

- Identify the independent and dependent variables of the relation.
- Describe what happens in the graph.



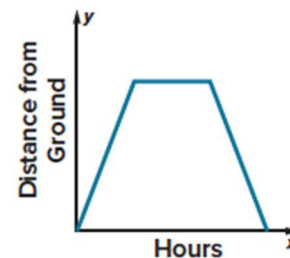
5. **DEMAND** The graph represents the price of an item and the number of items purchased.

- Identify the independent and dependent variables of the relation.
- Describe what happens in the graph.

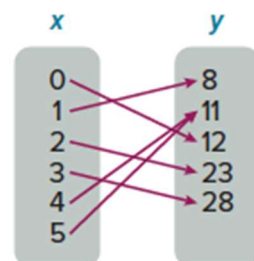


6. **AIRPLANES** The graph represents the number of hours of a flight and the distance an airplane is from the ground.

- Identify the independent and dependent variables of the relation.
- Describe what happens in the graph.

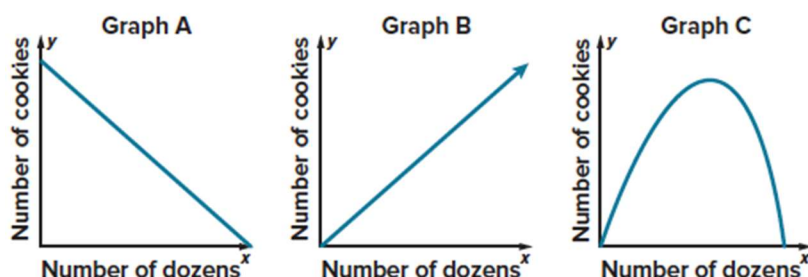


7. **DATA COLLECTION** Rafaella collected data to determine the number of books her schoolmates were bringing home each evening. Her data is shown in the mapping. She let x be the number of textbooks brought home after school and y be the number of students with x textbooks.



- Express the relation as a set of ordered pairs.
- What is the domain of the relation?
- What is the range of the relation?

8. **COOKIES** Identify the graph that best represents the relationship between the number of cookies and the equivalent number of dozens.



9. **MOWING** Cordell is mowing his front lawn. His mailbox is on the edge of the lawn. Draw a reasonable graph that shows the distance Cordell is from the mailbox as he mows. Let the horizontal axis show the time and the vertical axis show the distance from the mailbox.

10. **STRUCTURE** Express the relation in the mapping as a set of ordered pairs.

