Algebra 1 1.6

Represent relations

Interpret graphs of relations

relation

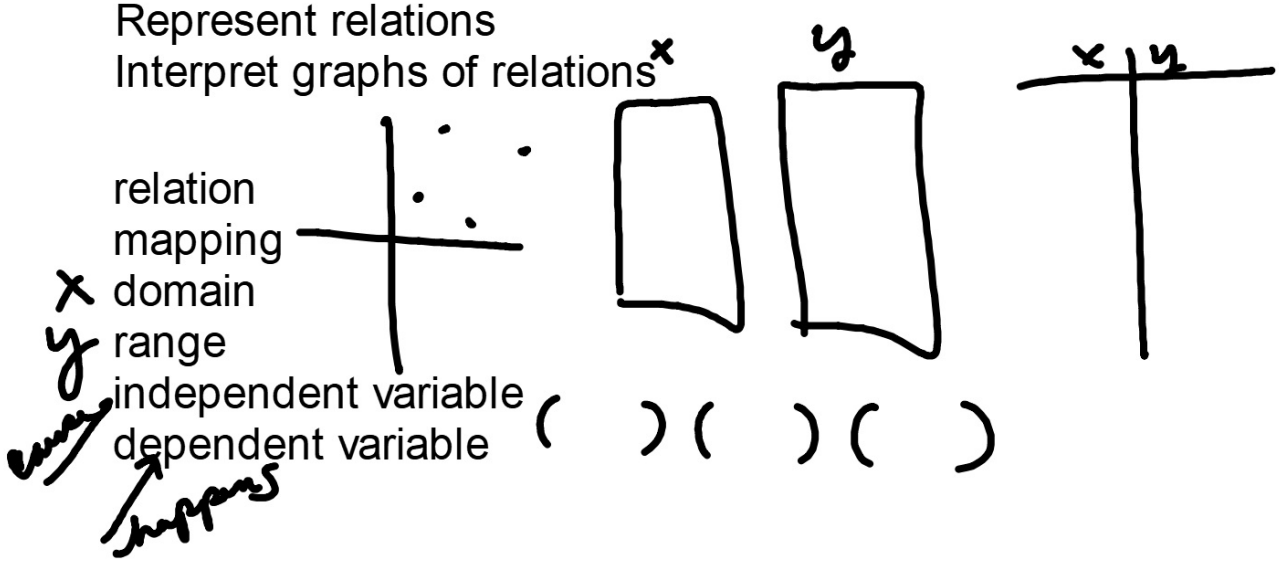
mapping

x domain

y range

independent variable

dependent variable



Complete the mapping to represent the same relation shown below.

ordered pairs

(0, 1)
(3, 3)
(4, 2)
(4, 1)

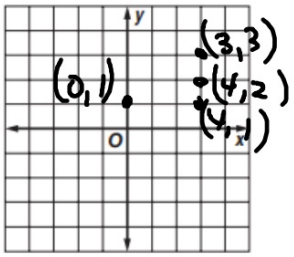
1. table

x	y
0	1
3	3
4	2
4	1

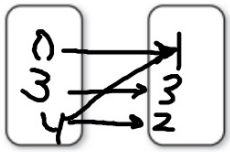
D: 0, 3, 4

R: 1, 3, 2

2. graph



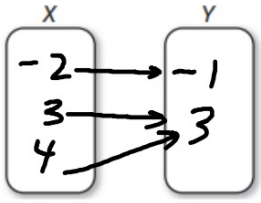
3. mapping

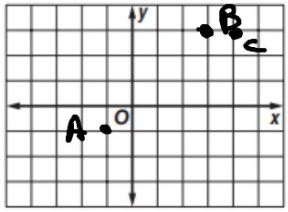


Exercises

1A. Express the relation $\{(-2, -1), (3, 3), (4, 3)\}$ as a table, a graph, and a mapping.

	x	y
A	-2	-1
B	3	3
C	4	3





D: -2, 3, 4

R: -1, 3

1B. Determine the domain and the range of the relation.

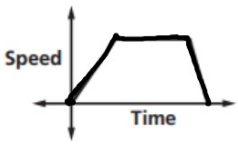
cause what happens

Identify the independent and dependent variables for each relation. Then describe what is happening in each graph.

1. The graph represents the speed of a car as it travels to the grocery store.

i: time

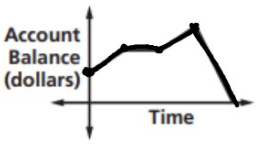
d: speed



2. The graph represents the balance of a savings account over time.

i: time

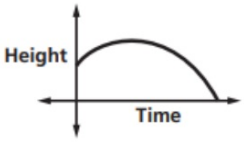
d: balance



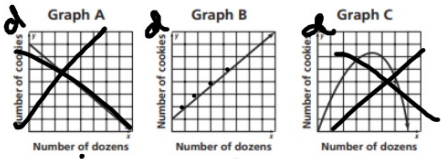
3. The graph represents the height of a baseball after it is hit.

i = time

d = height

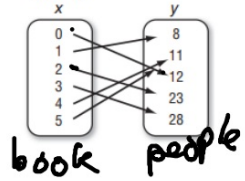


3. BAKING Identify the graph that shows the relationship between the number of cookies and the equivalent number of dozens.



i l i

4. DATA COLLECTION Margaret collected data to determine the number of books her schoolmates were bringing home each evening. She recorded her data as a set of ordered pairs. She let x be the number of textbooks brought home after school, and y be the number of students with x textbooks. The relation is shown in the mapping.



a. Express the relation as a set of ordered pairs.

(0, 12)
(1, 8)
(2, 23)
(3, 28)
(4, 11)
(5, 11)

D: 0, 1, 2, 3, 4, 5

R: 12, 8, 23, 28, 11