2.1 Represent Relations and Functions

TEKS *a.1, a.3, a.5, 2A.1.A*

Before	You solved linear equations.
Now	You will represent relations and graph linear functions.
Why?	So you can model changes in elevation, as in Ex. 48.

Key Vocabulary
• relation
• domain
• range
• function
• equation in two variables
• linear function

A **relation** is a *mapping*, or pairing, of input values with output values. The set of input values is the **domain**, and the set of output values is the **range**.

KEY CONCEPT   *For Your Notebook*

Representing Relations

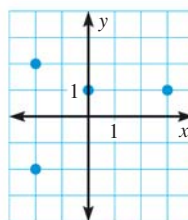A relation can be represented in the following ways.
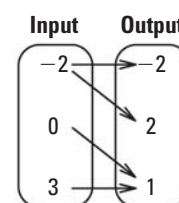
Ordered Pairs

(−2, 2)

(−2, −2)

(0, 1)

(3, 1)

Table

x	y
−2	2
−2	−2
0	1
3	1

Graph

Mapping Diagram

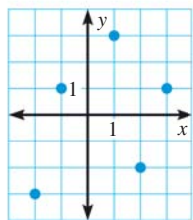---

EXAMPLE 1   Represent relations

Consider the relation given by the ordered pairs (−2, −3), (−1, 1), (1, 3), (2, −2), and (3, 1).

  a. Identify the domain and range.

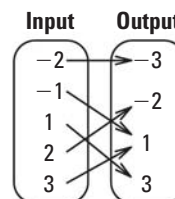 **b.** Represent the relation using a graph and a mapping diagram.

Solution

  a. The domain consists of all the *x*-coordinates: −2, −1, 1, 2, and 3.
     The range consists of all the *y*-coordinates: −3, −2, 1, and 3.

REVIEW GRAPHING
For help with plotting points in a coordinate plane, see p. 987.

  b. Graph

Mapping Diagram