



## Vocabulary: Introduction to Functions



### Vocabulary

- **Domain** – the set of all input ( $x$ ) values of a relation.
- **Function** – a set of ordered pairs such that for each input ( $x$ ) value, there is one and only one output ( $y$ ) value.
- **Input** – a number that goes into a relation; an  $x$ -value.
  - An input value is the first element in an ordered pair. For example, in the ordered pair,  $(3, 4)$ , the number 3 is the input.
  - In the equation  $y = x + 1$ , if the input is 3, the output is 4.
- **Mapping diagram** – a diagram that contains two columns consisting of input and output values that can be paired to form a relation.
  - Pairs of values can be plotted as points in the  $x, y$ -coordinate plane.
  - This mapping diagram shows 1 mapped onto 3, 3 mapped onto 2, and 4 mapped onto 5. The mapping represents the ordered pairs  $(1, 3)$ ,  $(3, 2)$ , and  $(4, 5)$ .
- **Ordered pair** – the coordinates of a point in which the first coordinate represents its  $x$ -value and the second coordinate represents its  $y$ -value.
  - For example,  $(3, 4)$  is an ordered pair where  $x = 3$ , and  $y = 4$ .
  - In the ordered pair  $(3, 4)$ , 3 is the input, and 4 is the output.
- **Output** – a number that results from a relation; a  $y$ -value.
  - An output value is the second element in an ordered pair. For example, in the ordered pair,  $(3, 4)$ , the number 4 is the output.
  - In the equation  $y = x + 1$ , if the input is 3, the output is 4.
- **Range** – the set of all output ( $y$ ) values of a relation.
- **Relation** – a set of ordered pairs.

