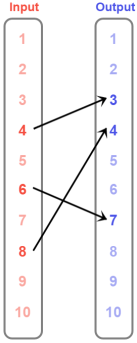
Vocabulary: Linear Functions

dictionary2

**Vocabulary**

* Coordinates – a set of numbers that names the location of a point.
  + In the two-dimensional coordinate plane, it takes two numbers (*x*, *y*) to specify a location.
  + The (*x*, *y*) coordinates of a point are called an *ordered pair*.
* Equation – a mathematical statement that states that two expressions involving numbers and/or variables are equal.
  + For example, 3 + 4 = 7, 3*x* + 2 = –5, and *y* = 5*x* are equations.
* 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 firstelement 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.
* Linear function – a function whose graph is a non-vertical straight line.



* 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 4 mapped onto 3, 6 mapped onto 7, and 8 mapped onto 4. The mapping represents the ordered pairs (4, 3) (6, 7), and (8, 4).
* 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 secondelement 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.
* Relation – a set of ordered pairs.