Vocabulary: Points, Lines, and Equations



**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 sentence stating that two expressions are equal.
	+ For example, 3 + 4 = 7, 3*x* + 2 = –5, and *y* = 5*x* are equations.
* Input – a value of *x* that can be substituted into an equation to find the corresponding output or *y*-value.
	+ In the equation *y* = *x* + 1, if the input is 3, the output is 4.
	+ An input value is the firstelement in an ordered pair. For example, in the ordered pair, (3, 4), the number 3 is the input.
* Ordered pair – the coordinates of a point in the form (*x*, *y*).
	+ The first number (*x*-coordinate) in an ordered pair tells you how far the point is right or left of the *y*-axis.
	+ The second number (*y*-coordinate) in an ordered pair tells you how far the point is above or below the *x*-axis.
	+ In the equation *y* = *x* + 1, if the input is 3, the output is 4. This means the point (3, 4) lies on the graph of *y* = *x* + 1.
* Output – the value of *y* when a value of *x* issubstituted into an equation.
	+ In the equation *y* = *x* + 1, if the input is 3, the output is 4.
	+ An output value is the secondelement in an ordered pair. For example, in the ordered pair, (3, 4), the number 4 is the output.
* *x-*intercept – the *x*-coordinate of a point where a graph intersects the *x*-axis.
	+ In general, the *x*-intercept is the value of *x* when *y* = 0.
	+ For example, for *y = x* + 1, the *x-*intercept is found by substituting 0 for *y*:0= *x* + 1 🡺 *x* = –1.
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