

October 11, 2016

3.1 ✓  
3.3 ✓  
3.4 Complete now

\* No Quiz Tomorrow 😊

Oct 11-9:53 AM

5.1 Functions

\* Relation: a collection of ordered pairs.

e.g.

$$R = \{(-5, 6), (2, 10), (-3, 0)\}$$

Oct 11-10:04 AM

\* Function: is a Relation.

- all elements from the domain of the function have exactly one element in the Range of the function.

Oct 11-10:12 AM

Domain: is the set of  $D: \{-2, 3, 5\}$  all (inputs)  $x$ 's of a function.

$(x_1, y_1), (x_2, y_2), (x_3, y_3)$   
 $(-2, 5), (3, 10), (5, 0)$

Range: is the set of all  $R: \{5, 10, 0\}$  (outputs)  $y$ 's of a function.

Oct 11-10:16 AM

Function Machine

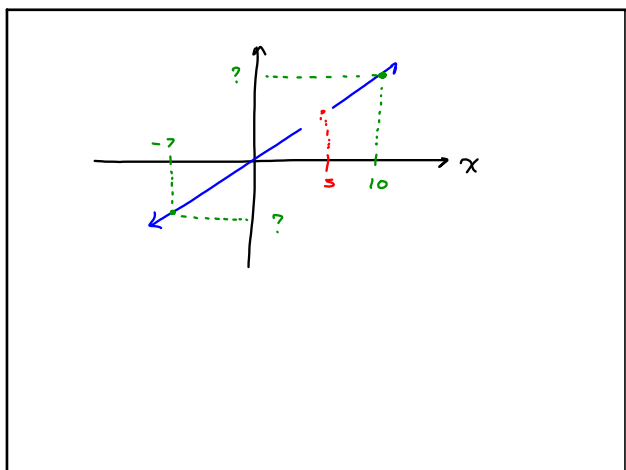
<p><u>Input</u></p> <ul style="list-style-type: none"> <li><math>x</math>'s</li> <li>Domain</li> <li>Horizontal Coord.</li> <li>Independent Variable</li> </ul>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <u>Rule</u> </div>	<p><u>Output</u></p> <ul style="list-style-type: none"> <li><math>y</math>'s</li> <li>Range</li> <li>Vertical Coord.</li> <li>Dependent Variable</li> </ul>
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Oct 11-10:24 AM

$x$ (Domain)	$f$ <div style="border: 1px solid black; padding: 5px; display: inline-block;"><math>3x + 5</math></div>	$y$ (Range)
0		5
-4		8
3		-7
		14

Domain: All Real Numbers  
 $\{x \mid x \in \mathbb{R}\}$   
or  
 $(-\infty, \infty)$

Oct 11-10:29 AM



Oct 11-10:37 AM

$$y = 3x + 5 \quad \text{slope-intercept.}$$
$$f(x) = \boxed{3x + 5} = \text{output}$$

*↑*  
input

$$f(1) = 3(1) + 5 = 8$$

Oct 11-10:43 AM