

Domain and Range

Domain

- Domain: Domain of a function is all the possible values for the input, or the independent variable (x), of a function.

Range

- Range: The possible values of the output, or dependent variable, y or $f(x)$, of a function.

Functions

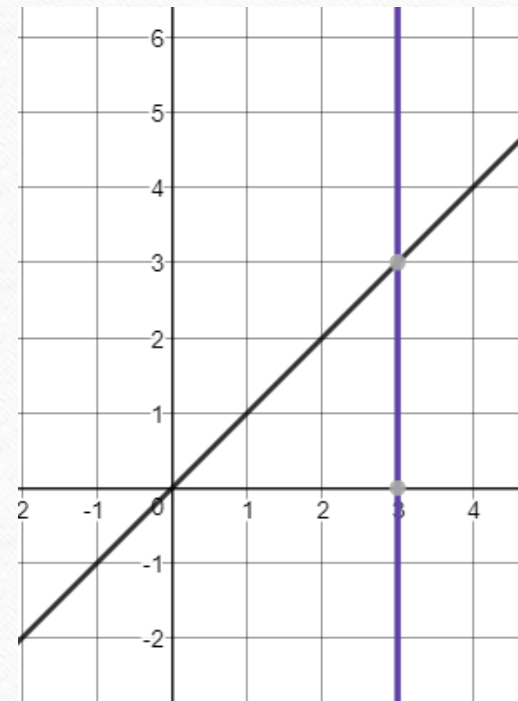
- Have exactly one y for each x .
- Example: $(1, 2), (3, 4), (1, 2), (5, -7)$
- Non-Example: $(1, 2), (1, 4), (5, -7)$

Vertical Line Test

- If you can draw a vertical line and it crosses the graph ONCE, it is a FUNCTION.
- If you can draw a vertical line and it crosses the graph MORE THAN ONCE, it is NOT a function.

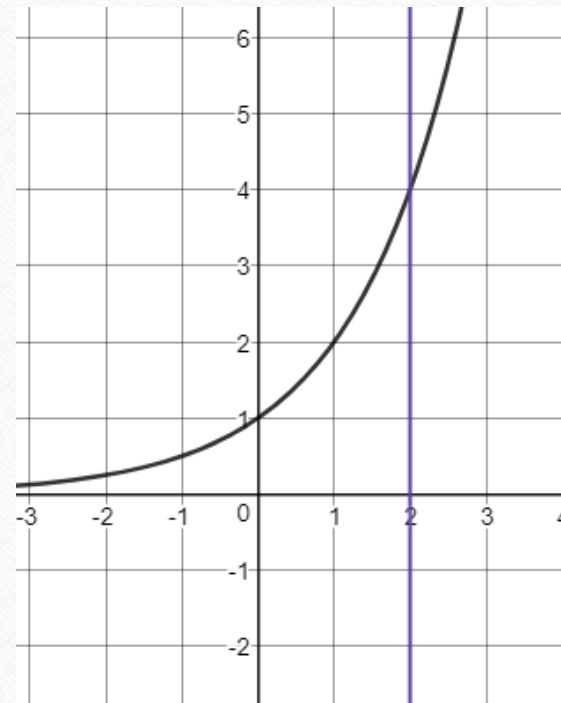
Example: Linear

- Domain: x is all real numbers
- Range: y is all real numbers



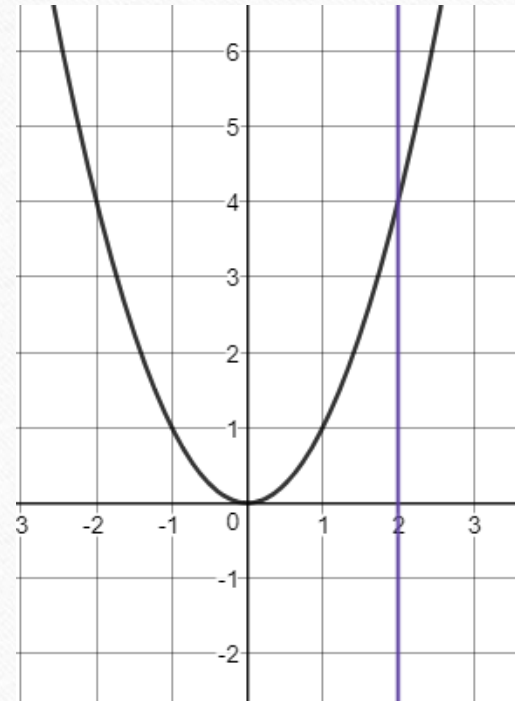
Example: Exponential

- Domain: x is all real numbers
- Range: $y > 0$



Example: Quadratic

- Domain: x is all real numbers
- Range: $y > 1$



Non Example

