

L2 Domain & Range

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Lesson 2 Domain & Range

Domain: the set of all values for which the function is defined

In most cases, we say the domain is all the values of x for which the function exists.

Range: the set of all values the function assumes

In most cases, we say the range is all the values of y for which the function is defined.

Example 1

State the domain and range of the given set.

$\{(-3, 2), (-1, 0), (0, 3), (1, 5), (5, 4), (7, 6)\}$

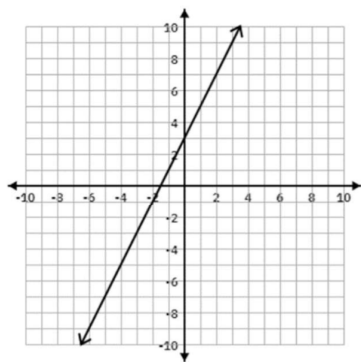
x-values *y-values*

$$D: \{-3, -1, 0, 1, 5, 7\} \quad R: \{0, 2, 3, 4, 5, 6\}$$

Example 2

State the domain and range of each graph.

a.)

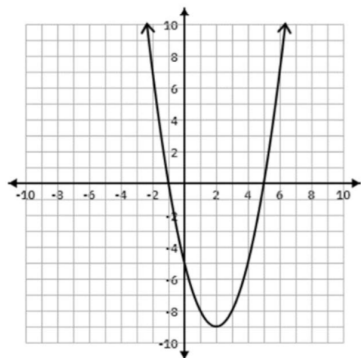


$$D: x \in \mathbb{R}$$

more fancy
 $D: \{x \mid x \in \mathbb{R}\}$
 x is an element of the set of Real numbers

$$R: y \in \mathbb{R}$$

b.)

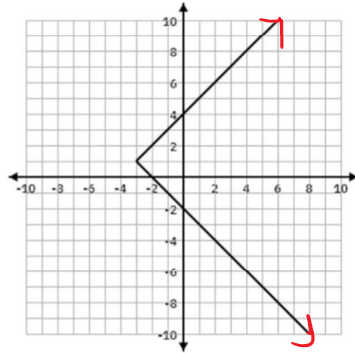


$$D: x \in \mathbb{R}$$

$$R: y \geq -9$$

all y values are greater than or equal to -9

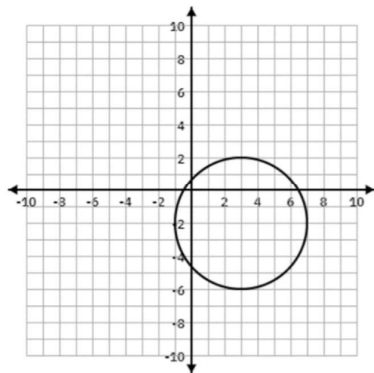
c.)



$$D: x \geq -2$$

$$R: y \in \mathbb{R}$$

d.)

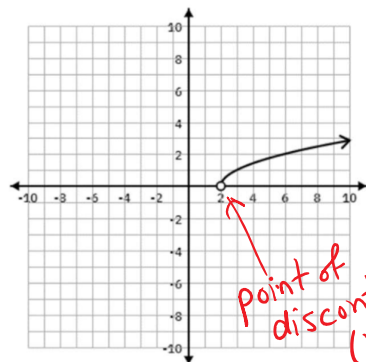


smallest values of x \downarrow largest value of x

$$D: -1 \leq x \leq 7$$

$$R: -6 \leq y \leq 2$$

e.)



$$D: x > 2$$

$$R: y > 0$$