

Chapter 2 Section 2 Graphs of Functions

Graphs of Functions: graph of its ordered pairs.

Example: the graph of $f(x) = 2x$ is the set of points (x, y) in the rectangular coordinate system satisfying $y = 2x$.

Graphing Functions

Graph $f(x) = 2x$

Solution:

Set of a table of coordinates .

Make a table of values for the following function

$$G(x) = -2x + 3 \qquad f(x) = |x|$$

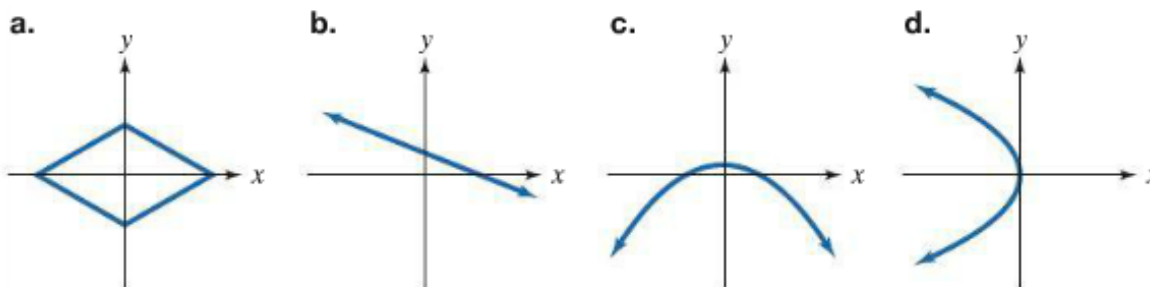
Linear functions:

- straight lines
- form: $f(x) = mx + b$

Vertical Line Test

- any vertical line intersects a graph in more than one point, the graph does not define y as a function of x .

Use the vertical line test to identify graphs in which y is a function of x .



Information from a graph

Closed dot – graph does not extend beyond this point and the point belongs to the graph

Open dot – graph does not extend beyond this point and the point does not belong to the graph

Arrow – graph extends indefinitely in the direction in which the arrow points.

Identifying Domain, Range from a Function's Graph.

Domain: set of input values

x-axis

Range: set of outputs

y-axis

Use interval notation

$(-4, 2)$ $(-4, 2]$

Example 4: page 119.

Use the graph of each function to identify its domain and its range.

