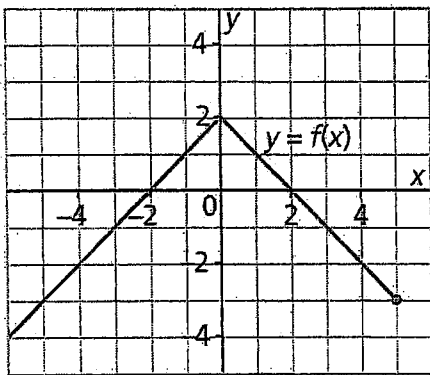


Foundations of Math & Pre-Calculus 10
Lesson 5.5 ~ Domain & Range

Domain is all possible values of x (independent variable)

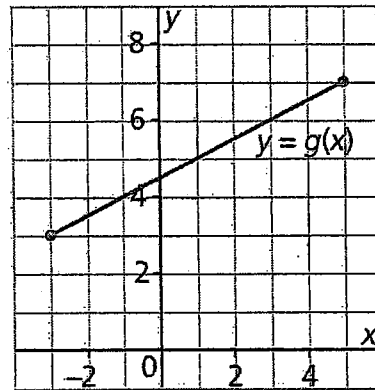
Range is all possible values of y (dependent variable)

Example #1: Determine the domain and range of each function.



$$d: \{x \mid x \leq 5\}$$

$$r: \{y \mid y \leq 2\}$$



$$d: \{x \mid -3 \leq x \leq 5\}$$

$$r: \{y \mid 3 \leq y \leq 7\}$$

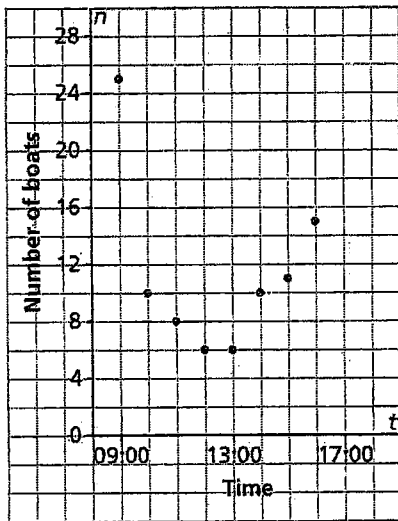
Graphing Discrete & Continuous Data:

Discrete data are plotted with points that **are not** connected since fractional values are not valid (ie: cannot have a fraction of a person, so number of people at a dance is discrete).

Continuous data are plotted with points that **are** connected since fractional values are valid (ie: can have a fraction of a second, so time in seconds is continuous).

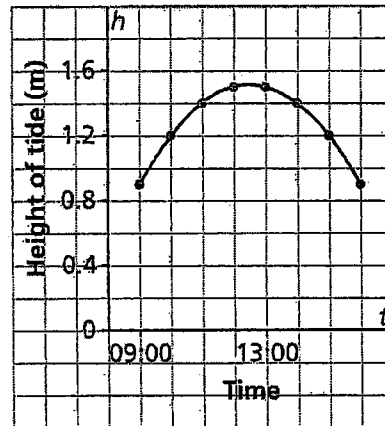
Example #2: Explain why the points are or aren't connected for each function.

Number of Fishing Boats Anchored in an Inlet



* cannot have part of a boat; values between points have no meaning

Height of Tide at Port Clements, June 17, 2009



* can have fractions of hours and m; values between points have meaning

Example #3: Use the graph of the function below to determine:

a) The domain value when the range value is -7.

$$\text{range} = y = -7$$

$$\text{domain} = \boxed{x = -1}$$

$$\hookrightarrow \text{so } f(-1) = -7$$

b) The range value when the domain value is 3.

$$\text{domain} = x = 3$$

$$\text{range} = \boxed{y = 9}$$

$$\hookrightarrow \text{so } f(3) = 9$$

