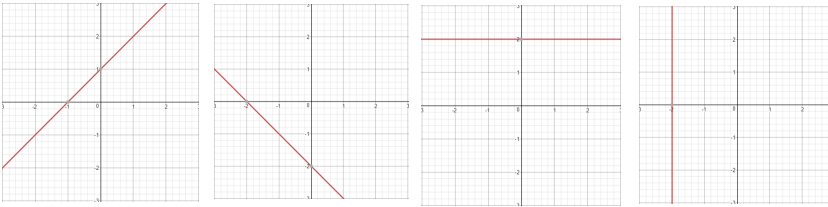


Graph Properties

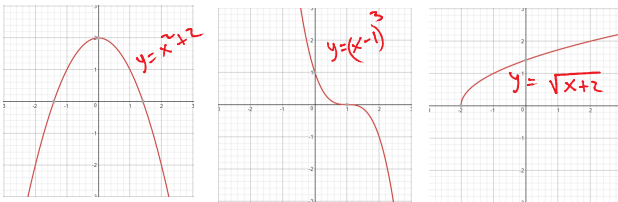
May 9, 2017 10:04 AM

Linear Relations: A relation that forms a single straight line when graphed



★ it also relates two variables of Degree One Ex: $y = 3x + 2$

Non-Linear: A relation that does not form a straight line

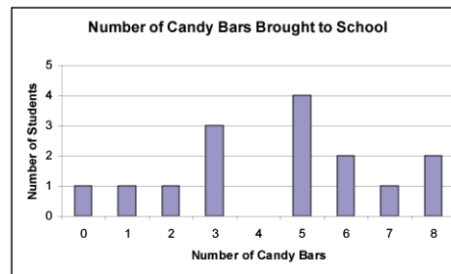
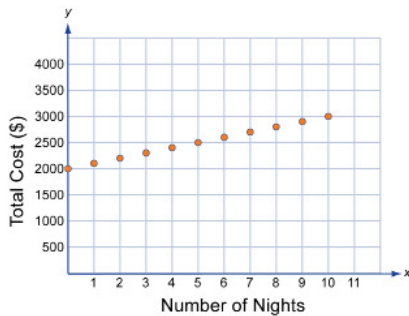


relate two variables of different degrees

Continuous data: data on a graph that is all connected (Lines and curves)

- All graphs above are examples of continuous data except one

Discrete Data: Data on a graph that is not connected (points)



Dependent Variable: the variable whose values depend on the independent variable. (plotted on the vertical axis)

Y-Value

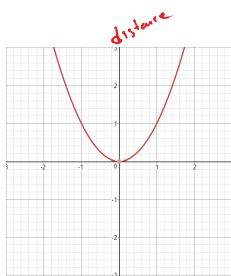
Independent Variable: the variable for which values are selected. (plotted on the horizontal axis)

X-Value

Ex: Determine if the data for the following relations represent linear/nonlinear, discrete/continuous, and determine the dependent and independent variables

1. $y = 3x + 5$: Linear, Continuous, y : Dependent, x : Independent

2.

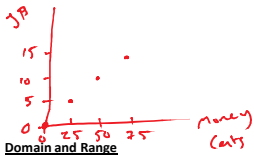


distance
Non-linear, Continuous,
distance: dependent, time: independent
time

3. Five jelly beans come out of the machine for each quarter you deposit

JP / - Discrete . . .

3. Five jelly beans come out of the machine for each quarter you deposit



- Discrete
- Jelly Beans: Dependent
- Money: Independent
- Linear

Domain and Range

Domain: The set of all possible values for the independent variable in a relation.

(ie usually all x-Values)

Range: The set of all possible values for the dependent variable in a relation.

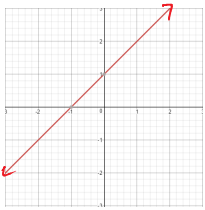
(ie usually all y-Values)

Ways to write the Domain and Range

Words, Number lines, A list, Set Notation, Interval Notation

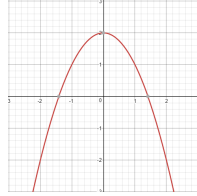
really only works for Discrete Data

Examples



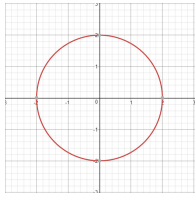
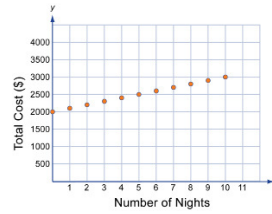
Domain: All Real x

Range: All Real y



Domain: All Real x

Range: All y less than 2 or equal to



Number line

Set notation

Interval notation

$\{x | x \in \mathbb{R}\}$

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

$\{x | x \in \mathbb{R}\}$

$\{y | y \leq 2; y \in \mathbb{R}\}$

$-\infty < x < \infty$

$-\infty < y < \infty$

$-\infty < x < \infty$

$-\infty < y \leq 2$

Homework: Chapter 6.2 Pg: 287 Q: 2,3,4,12
Chapter 6.3 Pg: 301 Q: 1,2,3,4,6,8

get stuck

Bathroom

Cornelius