Functions in Algebra 1:

Linear Functions:

  EQ: $y = mx + b$

    Graph: Line

Absolute Value Functions:

  EQ: $y = a|x - h| + k$

    Graph: V-Shape
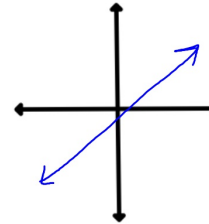
Quadratic Functions:

  EQ: $y = ax^2 + bx + c$
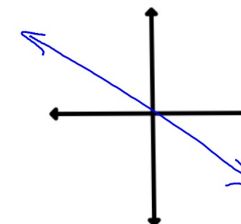   or
       $y = a(x - h)^2 + k$

  Graph: Parabola

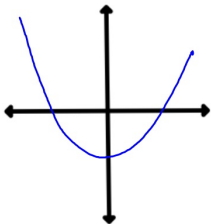Shapes of Graphs:

  Linear Functions: $y = mx + b$

  m>0   m<0

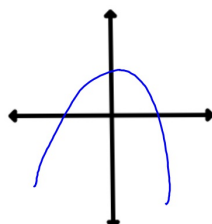Shapes of Graphs:

  Quadratic Functions: $y = ax^2 + bx + c$
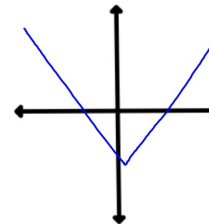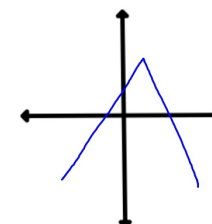   or $y = a(x-h)^2 + k$

  a>0   a<0

Shapes of Graphs:

  Absolute Value Functions: $y = a|x - h| + k$

  a>0   a<0
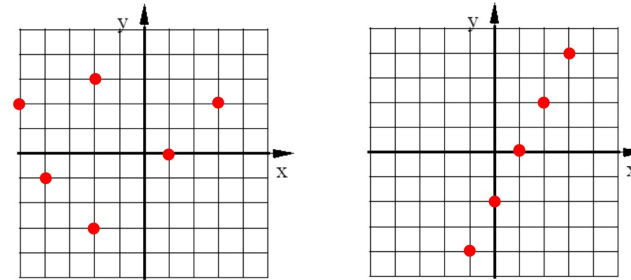
Alg 1   Hwk #26   Notes sec 5-2

1. What is a Relation?

Relation: A set of ordered pairs.

A bunch of points.

These points may or may not have a particular relationship

These are both Relations.

2. What is the Domain of a Relation?

Domain: All the different x values in numerical order.

3. What is the Range of a Relation?

Range: All the different y values in numerical order.

In order without repeating!

Other names for Domain and Range

Domain

- x-coordinates
- Input
- Independent
  Variable

Range

- y-coordinates
- Output
- Dependent
  Variable

$(4,-1),(2,3),(4,-5),(-2,6),(1,3)$

4. State the Domain and Range of this Relation:

Domain: Range:

-2, 1, 2, 4   -5, -1, 3 6

State the domain and range of this relation.
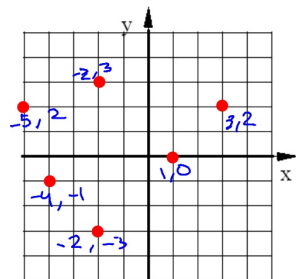
$(6,-1),(2,-5),(-1,7),(9,-4),(1,3)$

Domain: Range

3, -4, 7, -5, -1

6, 2, -1, 9, +

$\{-1, 1, 2, 6, 9\}$ $\{-5, -4, -1, 3, 7\}$

State the Domain and Range or each Relation

-2, 3
-5, 2   3, 2
1, 0
-4, -1
-2, -3
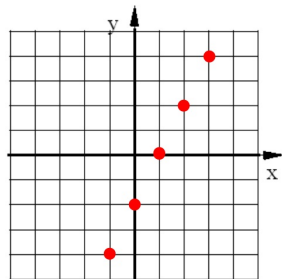
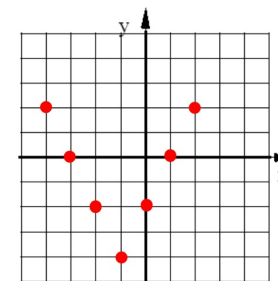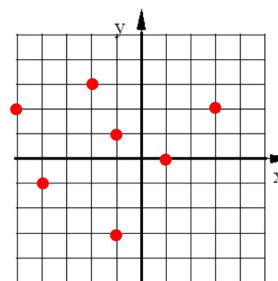Domain: -5, -4, -2, 1, 3   Domain: -1, 0, 1, 2, 3

Range: -3, 0, 2, 3   Range: -4, -2, 0, 2, 4
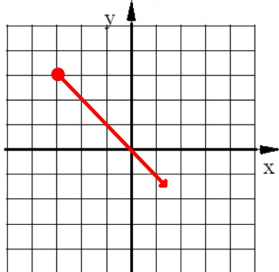

These are called Discrete Graphs.

The domain and range can just be listed using all the values of x and y.
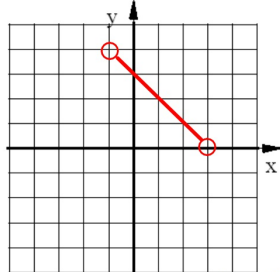
You can count the points

These are called Continuous Graphs.

The domain and range can't be listed using
all the values of x and y because there are an
infinite # of points. You must use INEQUALITIES

Domain: $X \geq -3$

Range: $Y \leq 3$

Domain: $-1 < X < 3$

Range: $0 < y < 4$