# LESSON 1.2

## ANALYZING AND SORTING GRAPHS

# SORTING GRAPHS

- **A DISCRETE GRAPH**
  - IS A GRAPH MADE UP OF ISOLATED POINTS
  - USED WHEN QUANTITIES ARE COUNTED, LIKE THE NUMBER OF JELLY BEANS IN A JAR
- **A CONTINUOUS GRAPH**
  - IS A GRAPH WITH NO BREAKS IN IT
  - USED WHEN QUANTITIES ARE MEASURED, LIKE A PERSON'S HEIGHT

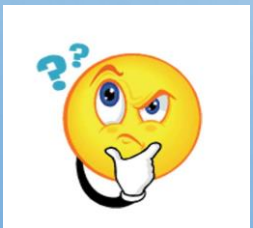
On Pages 19 – 25 in your textbook, find all the discrete graphs and label them "Discrete".

**F, K, O, U**

# ANALYZING GRAPHS

- **VERTICAL SYMMETRY**
- IF YOU DRAW A **VERTICAL** LINE DOWN THE MIDDLE OF AN OBJECT, THE TWO SIDES WILL BE MIRROR IMAGES OF EACH OTHER.
- ALPHABET LETTERS THAT HAVE VERTICAL SYMMETRY: V, X, A, H, M,…

- **HORIZONTAL SYMMETRY**
- IF YOU DRAW A **HORIZONTAL** LINE ACROSS THE MIDDLE OF AN OBJECT, THE TOP WILL BE A MIRROR IMAGE OF THE BOTTOM.
- ALPHABET LETTERS THAT HAVE HORIZONTAL SYMMETRY: B, D, E, H, I, K, O,…



Find all the graphs with vertical symmetry and label them “VS”.

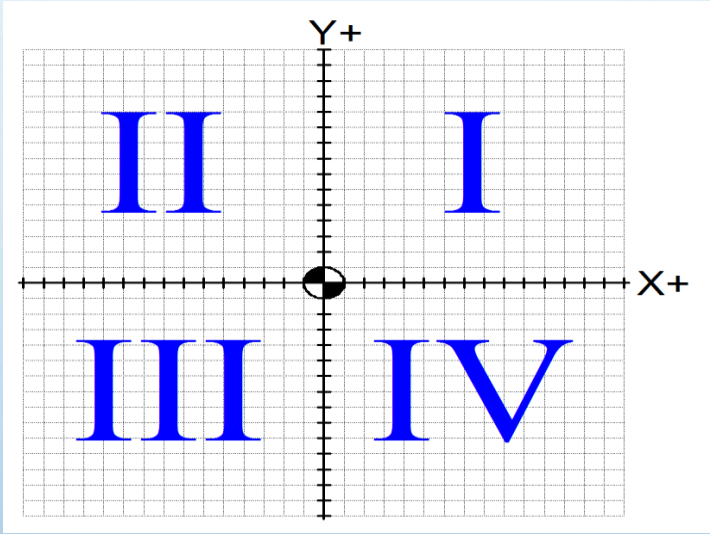
**B, D, E, F, I, M, Q, R, T, U, V**

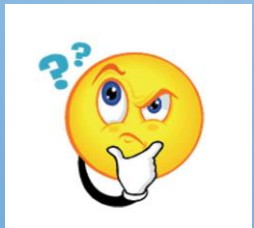
Find all the graphs with horizontal symmetry and label them “HS”.

**E, N, R, and U**

# QUADRANTS

THE 4 SQUARES THAT MAKE UP THE COORDINATE GRID



Three graphs go through all 4 quadrants. Find and label them with a "4" for the 4 quadrants. Hint: Remember, lines never end!

**E, F, and J**

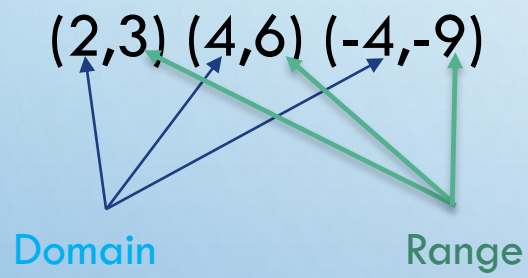
# FUNCTION FAMILIES

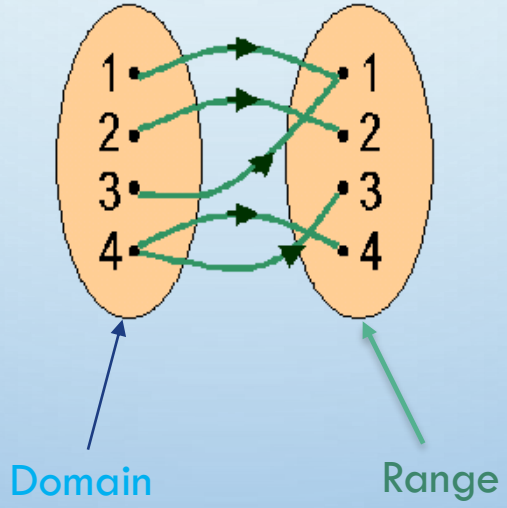
Linear
Piecewise Linear
Exponential
Quadratic
Absolute Value

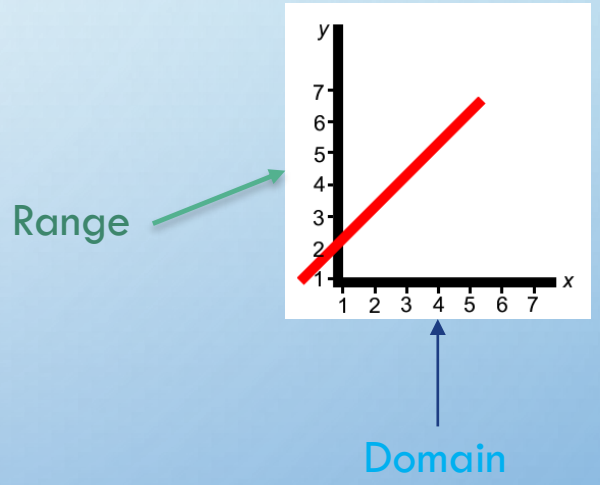
Label the graphs on pages 19 – 25 with the correct function family. Not all graphs belong to a function family.

# RELATIONS

Relation: a relationship between a set of inputs and a set of outputs, i.e. students and their heights or ordered pairs of numbers.



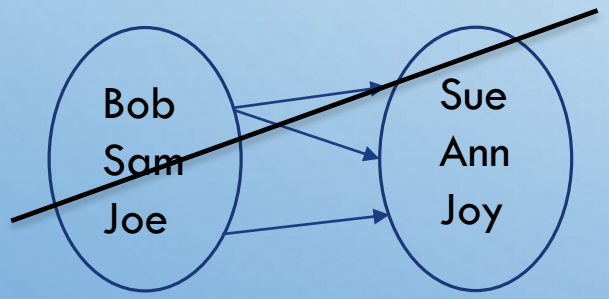

Domain: the input values or the starting points. (x-values)

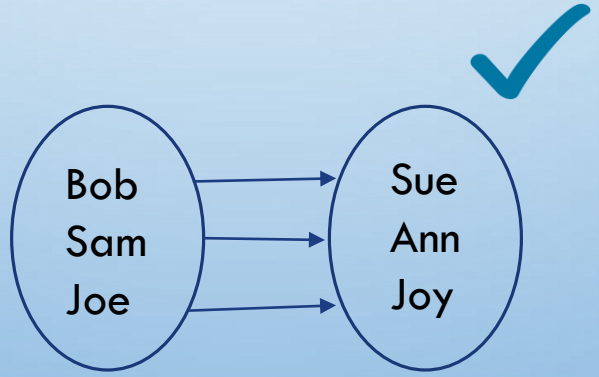
Range: the output values or the end points. (y-values)

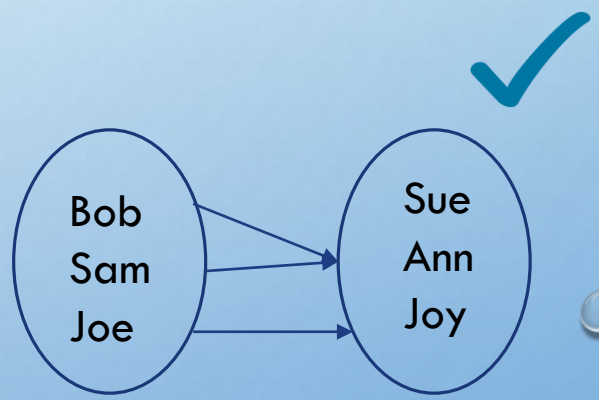
# FUNCTIONS

A function is a special relation where every input is matched with exactly one output.

*Functional Dating Rules!



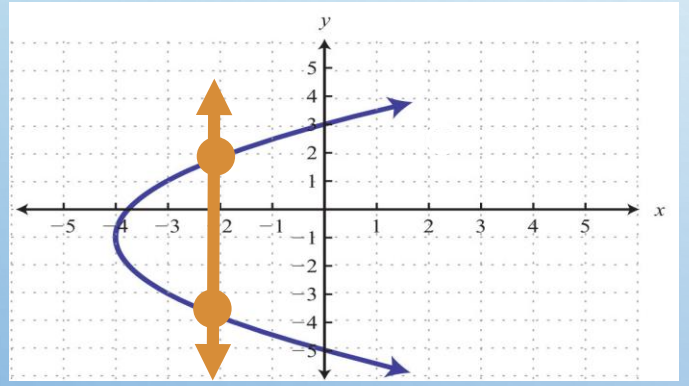



# VERTICAL LINE TEST

If you can draw a vertical line through any part of the graph and it intersects the graph in more then one point, then it is NOT a function

**NO**




**YES**