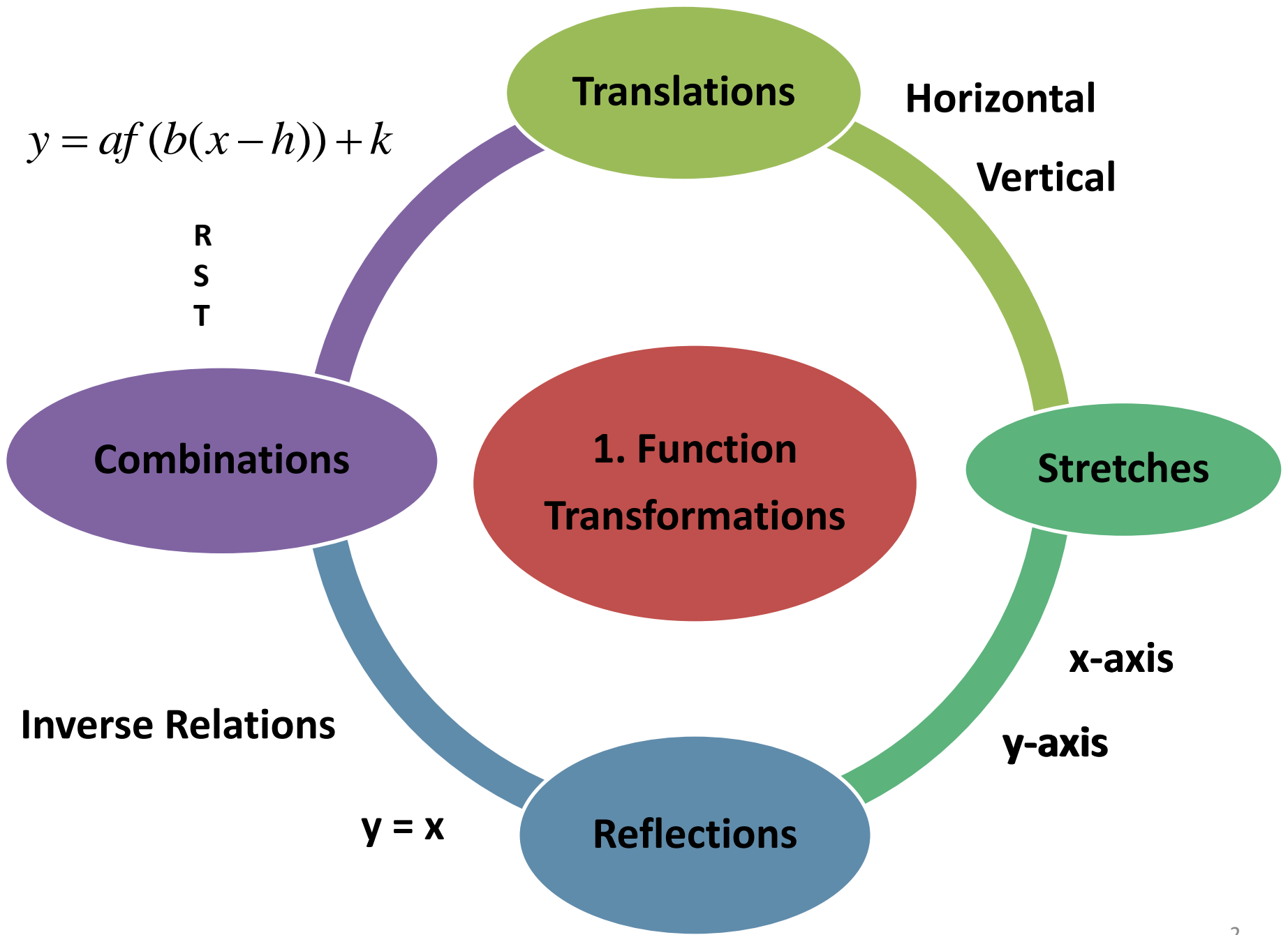


Welcome to
Math 30-1
with
Mr. Kulmatyski





**Function
Transformations**

$$y = af(b(x - h)) + k$$

- **Identify the effect of parameters**
- **Sketch and Compare Graphs**
- **Write the Equation of a transformed graph**
- **Domain and Range**
- **Intercepts, invariant points, and key points**
- **Mapping Notation**

Inverse Relations:

Equation of Linear and Quadratic Inverses

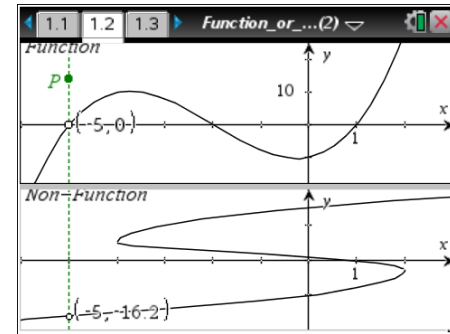
Graphs of Polynomial, Piecewise, Radical,

Exponential and Absolute Value Functions

Functions can be Represented Graphically



Function or Not a Function



Move the vertical line back and forth. What do you notice?

Based on your observations:

a. A vertical line intersects the **graph of the *Function*** at more than one point:

ALWAYS

SOMETIMES

NEVER

b. A vertical line intersects the **graph of the *Non-Function*** at more than one point:

ALWAYS

SOMETIMES

NEVER

Move the vertical line so that it intersects the *Non-Function* graph at more than one point.

a. What do **the coordinates** of these points have in **common**?

b. What is **different** about the **coordinates** of these points?

Functions or Relations can be Represented as a Table of Values

Explain why the *table* labeled *Non-Function* on page 1.2 does not represent a function.

Functions or Relations can be Represented as Equations

Examine the graphs and tables of values on pages **2.1 to 5.1**. Explain whether the equations represent Functions or Non-Functions.

Functions can be Represented Using Function Notation



Function Notation

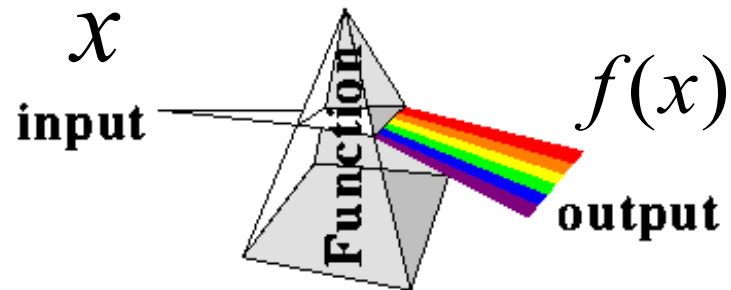
$$y = f(x)$$

$$y = g(x)$$

Relations and Functions

A **relation** is a rule that describes how one set of numbers relates to another. The relationship between the numbers is described with an **equation**, a list of ordered pairs, or a graph.

A **function** is a relation such that every input has only one matching output.

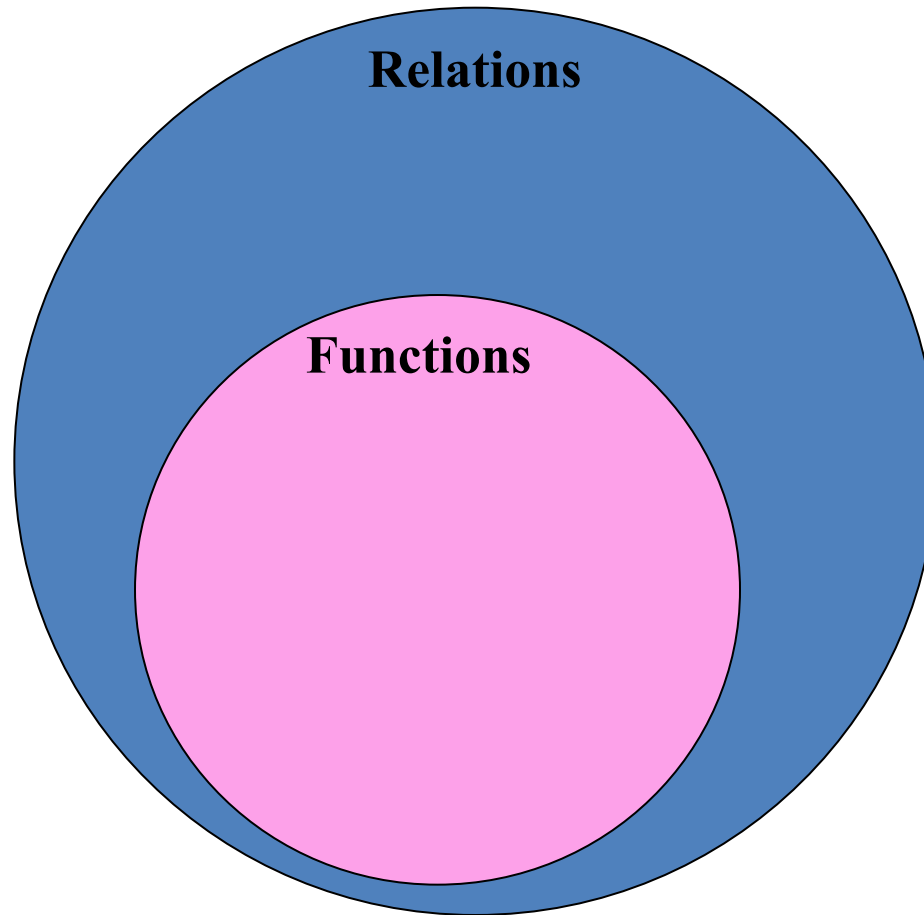


$y = f(x)$ means that you are referring to a relation that can be classified as a function.

$$x^2 + y^2 = 25$$

$$y = 2x + 7$$

$$y - x = 2$$



$$\frac{x^2}{4} - \frac{y^2}{9} = 1$$

$$y = x^2 + 5x + 6$$

$$y = |x + 2|$$

$$y = f|x + 2|$$

Incorrect notation

Domain and Range



Domain and Range Activity

Domain and Range Tutorial

http://www.teachertube.com/viewVideo.php?video_id=48227&title=Domain_and_Range_KORNCAS

Interval Notation Tutorial

http://www.teachertube.com/viewVideo.php?video_id=184754&title=Interval_Notation&vpkey=