## Class Notes and Examples

Exploratory Activity:

We transform the graph of a known, or "base" function, by adding/subtracting, multiplying/dividing a constant in various ways to the function. Let's explore the relationship between the graphs of a base function and related functions that are transformations of that function, by using our graphing calculators.

| | Domain & Range | Graph | Relationship between graph and graph of base function |
|---|---|---|---|
| Base function: $y = f(x) = \sqrt{x}$ | | | |
| $y = f(x) + 2 = \sqrt{x} + 2$ | | | |
| $y = f(x) - 2 = \sqrt{x} - 2$ | | | |
| $y = f(x+2) = \sqrt{x+2}$ | | | |
| $y = f(x-2) = \sqrt{x-2}$ | | | |
| $y = -f(x) = -\sqrt{x}$ | | | |
| $y = f(-x) = \sqrt{-x}$ | | | |