

# Coreq Support for Section 3.6

## Topic 1: Sketching the Graphs of the Basic Functions

## Topic 2: Sketching the Graphs of Basic Functions with Restricted Domains

## Topic 3: Using Vertical or Horizontal Shifts to Graph Functions

(Video: Graphing Piecewise-Defined Functions; Shifting/Reflecting Graphs of Functions 14:32 – 31:22)

Recall from section 3.4 that for a positive number  $c$ :

- The graph of  $g(x) = f(x) + c$  is the graph of  $y = f(x)$  shifted  $c$  units upward.
- The graph of  $g(x) = f(x) - c$  is the graph of  $y = f(x)$  shifted  $c$  units downward.
- The graph of  $g(x) = f(x - c)$  is the graph of  $y = f(x)$  shifted  $c$  units to the right.
- The graph of  $g(x) = f(x + c)$  is the graph of  $y = f(x)$  shifted  $c$  units to the left.

#### **Topic 4: Determining the Domain and Range of a Function from its Graph**

#### **Topic 5: Graphing Piecewise-Defined Functions**

**(Video: Graphing Piecewise-Defined Functions; Shifting/Reflecting Graphs of Functions 0:00 – 9:48)**

Recall from section 3.3 that a **piecewise-defined function** is a function defined by two or more expressions.

**Topic 6: Rearranging an Equation to Solve for  $y$**

**Topic 7: Finding Function Values from a Graph**