• Definition of a function.
• Understand how to write a function in functional notation (for example, \( f(x) = \frac{1}{x} \)).
• Definition of the domain and range of a function.
• Understand how to express inequalities (for example, \( x \geq 3, \ 2 < x \leq 10 \), etc...) in interval notation.
• Definition of the zeros of a function
• Know how to find the zeros of a function
• Know how to compute the domain of a function, and express it in interval notation.
• Know how to evaluate a function, not just for numerical inputs such as 2, 1, -3, etc..., but also for algebraic expressions such as \(-x, x + h, x^2\), etc...
• Know how to evaluate piecewise-defined functions.
• Know how to graph piecewise-defined functions.
• Be able to identify the independent and dependent variable in an equation such as \( y = x^5 - 3x + 1 \).
• Given the statement “___ is a function of ___”, be able to identify which of the blanks is the input and which is the output.
• Know how to determine if a given graph is the graph of a function (Vertical Line Test).
• Know how to determine the value of the function at particular inputs using just the graph.
• Know how to determine the domain and range of a function from the graph.
• Definition of an \( x \)-intercept(s).
• Definition of the \( y \)-intercept.
• Know how to find the \( x \)-intercept(s) of the graph of a function exactly using the function itself, or be able to identify the \( x \)-intercept(s) by using the graph alone.
• Definition of a function increasing/decreasing/constant on an open interval.
• Determine the open interval(s) over which the function is increasing/decreasing/constant.
• Definition of turning point.
• Be able to identify the turning points of the graph of a function.
• Definition of a function being positive/negative on an interval (We will discuss this more on Tuesday).
• Determine the interval(s) over which the function is positive/negative (We will discuss this more on Tuesday).
• Definition of an even/odd function.
• Understand what a function being even/odd tells us about its graph.
• Know how to determine whether or not a function is even/odd by evaluating \( f(-x) \).
• Be able to sketch a “qualitative graph” of a given scenario (see p.25 in the text).
• Definition of a complete graph (p.34).
• Be able to graph functions in your calculator, specifically, be sure you know how to adjust your viewing window to get a complete graph.
• Be able to approximate \( x \)-intercepts and turning points of a graph using your calculator.
• Be able to solve problems like those given in section 1.4.