MATH 11009: EXAM 1 Review

- **Section 1.1:**
  - Be able to determine if a given example is a function. If it is a function, state domain and range.
  - Be able to determine whether a given graph represents a function. Use Vertical Line Test.
  - Be able to evaluate a function and interpret the value if asked.
  - Be able to find the domain of a function from the formula.

- **Section 1.2:**
  - Be able to graph a function by plotting points.

- **Section 1.3:**
  - Be able to determine the slope given two points. Remember the following:

$$m = \frac{\text{change in the dependent variable}}{\text{corresponding change in the independent variable}}$$

  - Be able to determine the slope given an equation and interpret its value in the context of the problem. Remember the following:

$$\text{dependent variable} \;=\; m\,(\text{independent variable}) + \text{vertical intercept}$$

  - Be able to determine the vertical intercept and horizontal intercept and interpret its value in the context of the problem.

- **Section 1.4:**
  - Be able to determine the equation of the line.
  - Given an application problem, be able to find the equation of the line.
  - Be able to determine the equation of a horizontal line, vertical line, parallel line, or perpendicular line.
  - Be able to determine the difference quotient of a given function.

- **Section 2.1:**
  - Be able to solve a linear equation.
  - Be able to solve for either independent variable or dependent variable, given a value for the other variable.
  - Be able to solve a literal equation for a specific variable.

- **Section 2.2**
  - Be able to determine if a given example represents a discrete or continuous function.
  - Be able to determine if a given set of data can be fit by a linear function, only approximately by a linear function, or a nonlinear function.
  - Be able to determine which of a given equation is a better fit for a given set of data points.