

## MATH 138 PRE-REQUISITE SKILLS

### GEOMETRY

1. Set up and solve proportions for missing side(s) of similar triangles.
2. Know basic properties of circles and triangles.

### GENERAL FUNCTIONS

1. Understand and be able to use function notation.
2. Find the domain and range for a function given its graph or defining equation.
3. Identify a function as even, odd, or neither from its graph or defining equation.
4. Identify the effect of the basic transformation  $f(ax)$ ,  $f(x + a)$ ,  $af(x)$ , or  $f(x) + a$  for any real number,  $a$ , on the graph of  $f(x)$ .
5. Recognize inverse function notation and the relationship between a function and its inverse.

### ALGEBRAIC SKILLS

1. Simplify complex fractions and other rational expressions.
2. Complete the square for general quadratic expression in two variables.
3. Solve linear and quadratic equations in more than one variable and solve radical equations.
4. Find vertical and horizontal asymptotes of a rational function.
5. Use the distance formula.
6. Do complex number arithmetic.
7. Solve  $2 \times 2$  non-linear systems.

### GRAPHING CALCULATOR

1. Use a graphing calculator (do computations, enter a function correctly, construct graphs, etc).
2. Find an appropriate window and plot a complete graph of a function.
3. Using a graphing calculator, find approximate zeros of a function.