AP Calculus AB – Worksheet 4 **Graphing Calculator Basics**

When finding solutions on your graphing calculator, all answers should be correct to 3 decimal places.

1. Consider the following function: $f(x) = x^3 - 3x^2 - 24x + 5$
   a) Graph $f(x)$ in a complete window.
   b) Evaluate $f(-1.5)$
   c) Find all zeroes of $f(x)$.
   d) Find the coordinates of the maximum point(s).
   e) Find the coordinates of the minimum point(s).
   f) What is the *y*-intercept of $f(x)$.
   g) Consider $g(x) = -10x - 25$. Find all values of *x* such that $f(x) = g(x)$.

2. Use a graphing calculator to find the zeroes of each function.
   a) $f(x) = \sin x + x^2$
   b) $g(x) = -3 + e^{2x}$
   c) $h(x) = -3 + \ln x$

3. Use a graphing calculator to find all values of *x* such that $f(x) = g(x)$.
   a) $f(x) = x^3 - 2x;\ g(x) = 2\cos x$
   b) $f(x) = x^2 - 3x - 5;\ g(x) = \sqrt{x+3}$

4. Use a graphing calculator to find the maximum and minimum points of $f(x) = x^3 - e^x$.