**3.6 Newton’s Method**

We all remember that quadratic equations can be solved with a special formula (“*x* equals negative *b*…”). There are also formulas that solve cubic (third degree) and quartic (fourth degree) equations but they are UGLY! And once you get above degree four, there is no formula at all. Graphing technology is the usual strategy for such equations but we can find *approximations* to the solutions of such equations by using Newton’s Method.

**Newton’s Method**

If  is a first approximation to a root of the equation , then successive approximations are given by:

Starting with , find the third approximation to the root of .

Use Newton’s method to find  correct to four decimal places.

Find the coordinates of the point of intersection of the curves  and  correct to six decimal places.