1. Let $f(x) = x^3 - 3x^2 + x + 1$
   (a) Show that $f(x)$ has a root between $x = 2$ and $x = 4$

   (b) Approximate the value of the root accurate to within 0.1 of its exact value

2. Let $g(x) = x^3 + x^2 - 6x$
   (a) Factor $g(x)$ to find its roots

   (b) On which intervals is $g(x)$ positive? On which intervals is $g(x)$ negative?