(1) Analyze these functions for extreme points, concavity and inflection points.
   (a) \( f(x) = x^3 - 6x \)
   (b) \( g(t) = t^3 - t^2 + t - 1 \)
   (c) \( g(t) = \frac{1}{t} \)
   (d) \( m(x) = 2x + \frac{1}{x} \)
   (e) \( w(x) = x^4 - 2x^2 + x + 1 \)
   (f) \( f(t) = t^2 \ln t \) for \( t > 0 \)
   (g) \( w(s) = s^2 e^s \)

(2) Give bounds on \( f(1.1) \) if
   (a) \( f(1) = 2 \) and \( .1 < f'(x) < .3 \) for all \( x \).
   (b) \( f(1) = 5 \) and \( |f'(x)| \leq 2 \) for all \( x \).

(3) Find the quadratic Taylor polynomial at the given point.
   (a) \( f(x) = e^x \) at \( x_0 = 0 \).
   (b) \( r(x) = \sqrt{x} \) at \( x_0 = 25 \).

(4) Approximate:
   (a) \( \sqrt{e} \)
   (b) \( \sqrt{26} \)