1. Given $r(t) = <1, t, t^2>$.
   a) find $r'(t)$

   b) find the unit tangent vector of $r(t)$

   c) find the curvature vector of $r(t)$

2. Given $f(x) = x^{3/2}$. Find the arclength of $f(x)$ from $x = 1$ to $x = 2$. 