1. Let $f(r) = \pi r^2$ give the area of a pizza as a function of its radius r.

   (a) Numerically (using difference quotients) determine the derivative of $f(r)$ at $r = 8$.
   (b) Algebraically determine the derivative of $f(r)$ at $r = 8$.
   (c) What is the meaning of $f(5) = 78.53$?
   (d) What is the meaning of $f'(8)$?

2. Let $C(n)$ be the cost of providing a COA education to n students. What is the practical meaning of the following quantities?

   (a) $C(300)$
   (b) $C'(300)$