Math 150, *Lecture Notes- Bonds*   **Name_____**
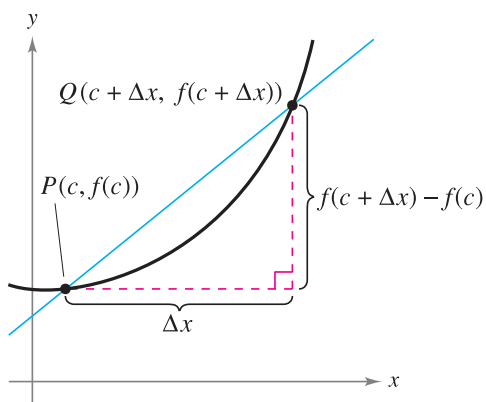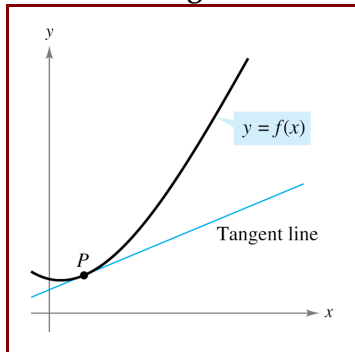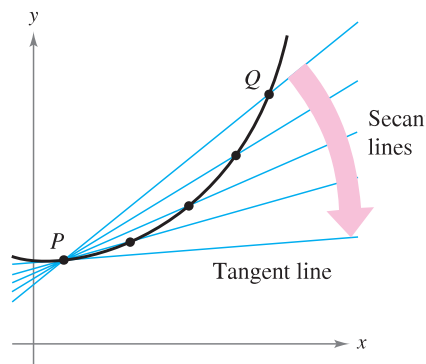
Section 1.1 *A Preview of Calculus*
the Area Problem

Ex.1 The Tangent Line Problem

(a) The secant line through $(c, f(c))$ and $(c + \Delta x, f(c + \Delta x))$

(b) As Q approaches P, the secant lines approach the tangent line.

$$m_{sec} = \frac{f(c + \Delta x) - f(c)}{c + \Delta x - c} = \frac{f(c + \Delta x) - f(c)}{\Delta x}.$$

Ex.2 The Area Problem

Approximation using four rectangles

Figure 1.4

Approximation using eight rectangles