

## SECTION 3-2: THE DERIVATIVE AS A FUNCTION

Read Section 3.2. Work the embedded problems.

1. Definition of the Derivative Function

2. Let  $f(x) = \sqrt{x+5}$ .

(a) Use the definition of the derivative to find  $f'(x)$ .

(b) Sketch  $f(x)$  and  $f'(x)$  on the same set of axes. (Use technology if you like.)

(c) Write the equation of the line tangent to  $f(x)$  at  $x = 0$ .

3. For each graph below, sketch the graph of  $f'(x)$  on the axes below.

