

## Suggested Problems for Thursday, September 6

Using the definition, compute the derivatives of the following functions:

1.  $f(x) = x^2 - 5x + 1$

2.  $g(x) = \sqrt{2x + 1}$

3.  $h(x) = \frac{1}{x + 3}$

Using any methods (including the theorems!), compute the derivatives of the following functions:

1.  $f(x) = x^{5/2} - 12x^{3/2} + 12x^{1/2}$

2.  $g(x) = (2x + 3)(3x - 4)$

3.  $h(x) = \frac{1 - x}{2 - x}$

For any of the above problems, practice finding the equation of the line tangent to the curve at the point  $x = a$  for various values of  $a$ .

For additional practice with derivatives, look at problems 1–30 in Section 2.1 and 1–43 in Section 2.2.

For additional practice with the Product Rule and the Quotient Rule, look at problems 1–41 in Section 2.3.