The Product and Quotient Rules

1. Find the derivative of the function (similar to p.124 #1-10)

$$f(x) = (x^4 - 3)(5x^2 + 2x - 3)$$

2. Find the derivative of the function (similar to p.124 #1-10)

$$f(x) = \sqrt[5]{x}(x - 3)$$

3. Find the derivative of the function (similar to p.124 #11-20)

$$f(x) = \frac{x^3 - 8x + 1}{x^2 - 4}$$

4. Find the derivative of the function (similar to p.124 #11-20)

$$f(x) = \frac{x + 5}{x^2 + 7x + 10}$$

5. Find the derivative of the function (similar to p.124 #27)

$$f(x) = \frac{2x - 3}{\sqrt{x}}$$

6. Find the derivative of the function
(similar to p.124 #28)

$$f(x) = \frac{5x^2 - 7x}{3x}$$

7. Find the derivative of the function
(similar to p.124 #29)

$$f(x) = \frac{x^2 - 25}{x + 5}$$

8. Find the derivative of the function
(similar to p.125 #43)

$$f(x) = \left(\frac{x-1}{x+5}\right)\left(x^2 + 3x + 5\right)$$

9. Find an equation of the tangent line to the graph of the function at the given point.
(similar to p.125 #45-52)

$$g(x) = \left(x^2 - 5x + 2\right)\left(x^3 - 4\right) \quad at \quad (1,6)$$

10. Find an equation of the tangent line to the graph of the function at the given point.
(similar to p.125 #45-52)

$$f(x) = \frac{3x-2}{x-2} \quad at \quad (4,5)$$

11. Find the point(s), if any, at which the graph of f has a horizontal tangent.
(similar to p.125 #53-56)

$$f(x) = \frac{4x+4}{x^2+3}$$