Product and Quotient Rule Practice.doc   **Name:_____**

Find the derivative of each function below using either the product rule or the quotient rule. Do not simplify answers.

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

2)
$$f(x) = \left(\frac{2}{\sqrt{x}}\right)(3x^4 + 5x)$$

3) $$f(x) = x^5(3x^2 + 5x)(\sqrt{x} + 3)$$

Find the derivative of each function. Simplify each answer.

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

2) $f(x) = \dfrac{2x+1}{3x-1}$

3) $f(x) = \dfrac{2}{x^2}$

4) $f(x) = \dfrac{3\sqrt{x}}{2}$

5) $f(x) = (x^2+1)(x+5+\dfrac{1}{x})$