Calculus Worksheet #3 Unit 1 Selected Solutions

Use the rules of differentiation to find the derivative of each of the following functions. (Remember that if a function is not given in polynomial form, then you must first write the function in polynomial form and then find its derivative.)

3. $f(x) = x^3 + 4x^2 + 6x - 2$ $\quad f'(x) = 3x^2 + 8x + 6$

6. $f(x) = \frac{3}{4}x^3 - \frac{5}{6}x^2 + \frac{7}{8}x$ $\quad f'(x) = \frac{9}{4}x^2 - \frac{5}{3}x + \frac{7}{8}$

9. $f(x) = (3x + 2)(5x^2 - 2x + 1)$ $\quad f'(x) = 45x^2 + 8x - 1$

$f(x) = 15x^3 - 6x^2 + 3x + 10x^2 - 4x + 2$

$f(x) = 15x^3 + 4x^2 - x + 2$