

Name: \_\_\_\_\_  
AP Calc: Quotient Rule Homework

Date: \_\_\_\_\_  
Ms. Loughran

1. If  $f(x) = (3x^2 + 1)^2$ , find  $f'(x)$ .

2. If  $y = \frac{1}{5x-3}$ , find  $y'(1)$ .

3. If  $x = \frac{3t}{2t+1}$ , find  $\frac{dx}{dt}$ .

4. If  $y = \frac{2x-1}{x+3}$ , find  $\left. \frac{dy}{dx} \right|_{x=1}$ .

5. If  $y = (2x^7 - x^2) \left( \frac{x-1}{x+1} \right)$ , find  $\left. \frac{dy}{dx} \right|_{x=1}$ .

6. If  $y = \frac{x+1}{x}$ , find  $\frac{d^2y}{dx^2}$ .

**Also from your textbook, p.126 #s 55-58 and Quick Quiz #s 2-4.**