Each problem is worth 5 points. For full credit provide proper justification for your answer.

1. State the sum rule for derivatives (that is, what's the derivative of f(x) + g(x)?).

$$\frac{d}{dx}(f(x)+g(x)) = f'(x) + g'(x)$$

Good

2. State the product rule for derivatives (that is, what's the derivative of f(x) × g(x)?).

$$\frac{d}{dx} f(x) \cdot g(x) = \left[f'(x) \cdot g(x) \right] + \left[f(x) \cdot g'(x) \right]$$

Great

3. State the quotient rule for derivatives (that is, what's the derivative of f(x) ÷ g(x)?).

$$\frac{d}{dx} \frac{f(x)}{g(x)} = \frac{f'(x) \cdot g(x) - f(x) \cdot g'(x)}{(g(x))^2}$$

Nice