

U and V are functions of x that are continuous & differentiable, they are defined by:

$$U(x) = 2x^2 + 9$$

$$v(x) = 3x + 2$$

Find the values of the following derivatives at x=0:

A. Product Rule: $\frac{d}{dx}(UV)$

B. Quotient Rule: $\frac{d}{dx}\left(\frac{U}{V}\right)$

C. Quotient Rule: $\frac{d}{dx}\left(\frac{V}{U}\right)$

D. Sum Rule: $\frac{d}{dx}[3U(x) - 2V(x)]$

Here is a question of the AP Calculus test from a couple of years ago. Refer to the entry task if you need help!

Now suppose that U & V are functions of x that are differentiable at $x=0$ and

$$U(0) = 5, \quad U'(0) = 3, \quad V(0) = 7, \quad V'(0) = 9$$

Find the values of the derivatives at $x=0$:

Find the values of the following derivatives at $x=0$:

A. Product Rule: $\frac{d}{dx}(UV)$

B. Quotient Rule: $\frac{d}{dx}\left(\frac{U}{V}\right)$

C. Quotient Rule: $\frac{d}{dx}\left(\frac{V}{U}\right)$

D. Sum Rule: $\frac{d}{dx}[3U(x) - 2V(x)]$

How do you feel about Product rule, quotient rule, sum rules?
Do you want additional practice?