MTH 201 -- Calculus Module 5A: The Product and Quotient Rules

October 5-6, 2020

Agenda for today

- Polling activity over Daily Preparation + Q&A time
- Activity: Practice with Product and Quotient Rules
- Q/A + Feedback time

The derivative of $f(t) \cdot g(t)$ (the product of two functions) is

$f'(t) \cdot g'(t)$ (The product of the derivatives)

$f'(t)g(t) + f(t)g'(t)$

$f'(t)g(t) - f(t)g'(t)$

$g'(t)f(t) - f'(t)g(t)$

None of the above

The derivative of $f(t)/g(t)$ is

$f'(t)/g'(t)$ (the quotient of the derivatives)

$$\frac{f'(t)g(t) + f(t)g'(t)}{(g(t))^2}$$

$$\frac{f'(t)g(t) - f(t)g'(t)}{(g(t))^2}$$

$$\frac{g'(t)f(t) - f'(t)g(t)}{(g(t))^2}$$

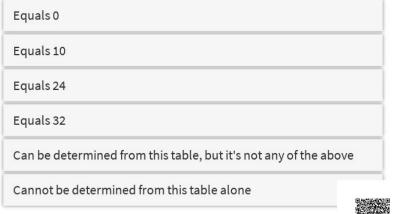$$\frac{f'(t)g(t) - f(t)g'(t)}{(g'[(t))^2}$$

The derivative of f(t)g(t) is **not** just f'(t)g'(t)

The derivative of f(t)/g(t) is **not** just f'(t)/g'(t)

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Group practice -- Go to your group/section's Jamboard

Here is a table of values for two functions f(x) and g(x) as well as their derivatives. Let h(x) = f(x) g(x). Then the value of h'(2)

x	-2	-1	0	1	2
$f(x)$	3	2	4	3	2
$f'(x)$	1	2	5	2	4
$g(x)$	2	3	7	1	5
$g'(x)$	0	2	3	4	6

Equals 0

Equals 10

Equals 24

Equals 32

Can be determined from this table, but it's not any of the above

Cannot be determined from this table alone

To   0