

note

2 views

Daily Challenge 12.3

(Due: Wednesday 8/22 at 12:00 noon Eastern)

We've now proven all of the results for taking derivatives of functions that we'll need for calculus, including:

- the product rule for $(fg)'(a)$
- the quotient rule for $\left(\frac{f}{g}\right)'(a)$
- the inverse function rule for $(f^{-1})'(a)$
- the chain rule for $(g \circ f)'(x)$
- the power rule for $\frac{d}{dx}(x^n)$.

From these, we can differentiate all of the functions we've learned so far (trigonometric functions, exponentials and logarithms, etc.), and many more besides.

(1) Problem: writing out the rules.

The first page of [consolidation document 3](#) is a set of "notes" where you'll collect all of the derivative rules, and the derivatives of common functions, for reference. I have listed all of the results but left question marks in the formulae, e.g.

Chain rule: $(g \circ f)'(x) = ???$.

Replace all of the question marks with the correct formulas in the Overleaf document.

daily_challenge

Updated 7 months ago by Christian Ferko

followup discussions *for lingering questions and comments*