

1. We need one more rule for derivatives, which will tell us how to differentiate the composition of functions. This rule could be called the composition rule, but everyone refers to it as the *chain rule*.
2. The chain rule says that if $f(x) = g(h(x))$, then $f'(x) = g'(h(x))h'(x)$. Written in Leibniz notation, if $y = f(x)$ and $u = h(x)$ then

$$\frac{dy}{dx} = \frac{dy}{du} \frac{du}{dx}$$

3. Most of the work that needs to be done is to internalize this rule both symbolically and practically. Both are accomplished through (what else?) practice.

Assignment: 5 - 45 every other odd, and 51, 61, 63.