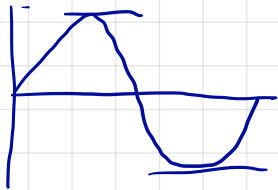


Product rule:  $\frac{d}{dx} f(x)g(x) = f'(x)g(x) + f(x)g'(x)$

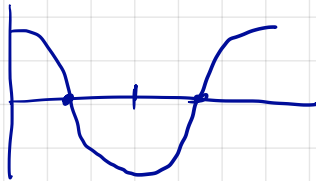
Inverse rule:  $\frac{d}{dx} \frac{1}{f(x)} = -\frac{f'(x)}{f(x)^2}$

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

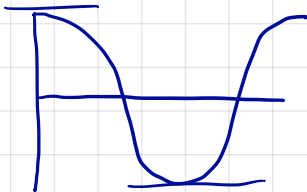
Two more derivatives:



$\sin(x)$



$\cos(x)$



$\cos(x)$



$-\sin(x)$

in fact:  $\frac{d}{dx} \sin(x) = \cos(x)$

$\frac{d}{dx} -\cos(x) = \sin(x)$

Will justify next.