Procedure

For a function
$$y = f(x)$$
where $f(x)$ contains complex powers, products or quantents.

1. Take ln of both sides

2. Simply $\ln f(x)$ using logarithem laws(power to product, product to sum and quotent to difference)

3. differentiate both sides with respect to x

4. Solve for $y\prime$

$$y\prime = y \underbrace{(ln(fx))}_{\text{simplified}}$$