

3.4 The Chain Rule

1. The chain rule: Let f and g be two functions. If g differentiable at x , and f is differentiable at $g(x)$, then the composition $F = f \circ g$ is defined and its derivative is

$$F'(x) = f'(g(x)) \cdot g'(x).$$

2. $(a^x)' = a^x \ln a$, for $a > 0$