**Chain Rule:**

Suppose $y$ is a differentiable function of $u$, and $u$ is a differentiable function of $x$. Then $y$ is a differentiable function of $x$ and we have the following:

\[
\frac{dy}{dx} = \frac{dy}{du} \cdot \frac{du}{dx}
\]

**Illustration:**

```
 y  \quad \frac{dy}{du} \quad u \quad \frac{du}{dx} \quad x
```

**General Power Rule** (Special case of Chain Rule)

\[
\frac{d}{dx} [f(x)]^n = n [f(x)]^{n-1} \cdot f'(x)
\]