

Dr Oliver Mathematics

Differentiation: Part 3

1. If

$$y = x^2 + 2 \text{ and } u = 2x - 1,$$

then find $\frac{dy}{du}$.

Solution

$$\begin{aligned}\frac{dy}{du} &= \frac{dy}{dx} \cdot \frac{dx}{du} \\ &= \frac{dy}{dx} \div \frac{du}{dx} \\ &= 2x \div 2 \\ &= \underline{x}.\end{aligned}$$