

Dr Oliver
Dr Oliver Mathematics
Integration: Part 2

1. Find

$$\int_0^8 \frac{1}{\sqrt{1+x}} dx$$

Solution

$$\begin{aligned} \int_0^8 \frac{1}{\sqrt{1+x}} dx &= \int_0^8 (1+x)^{-\frac{1}{2}} dx \\ &= \left[2(1+x)^{\frac{1}{2}} \right]_{x=0}^8 \\ &= 6 - 2 \\ &= \underline{4}. \end{aligned}$$