

Oppgave 21

Bruker substitusjonen

$$u = x^2 - 1$$

$$du = 2x dx \rightarrow x dx = \frac{1}{2} du.$$

Da er

$$\begin{aligned} \int x \sqrt{x^2 - 1} dx &= \int \frac{1}{2} u^{\frac{1}{2}} du \\ &= \frac{1}{3} u^{\frac{3}{2}} + C \\ &= \frac{1}{3} (x^2 - 1)^{\frac{3}{2}} + C. \end{aligned}$$