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No. 1
Date: 23/10/24

6. $\int \frac{3t}{\sqrt{t^2-5}}\,dt$

$\int \frac{3t}{\sqrt{u}} \cdot \frac{1}{2}\,du \quad u = t^2-5$

$\int \frac{3}{2\sqrt{u}}\,du$

$\frac{3}{2}\int \frac{1}{\sqrt{u}}\,du \Rightarrow \frac{3}{2}\int u^{-\frac{1}{2}}\,du$ integrasi: $u^{-\frac{1}{2}} \rightarrow 2u^{\frac{1}{2}}$

$\frac{3}{2}(2u^{\frac{1}{2}}+C)$ atau $3\sqrt{u}+C,\ C \in \mathbb{R}$

Jadi jawabannya: $3\sqrt{t^2-5}+C,\ C \in \mathbb{R}$

12. $\int 2\sin x \cos x\,dx$

Sifat: $\sin 2x = 2\sin x \cos x$

$\int 2\sin x \cos x\,dx = \int \sin 2x\,dx \Rightarrow -\frac{1}{2}\cos 2x + C$

$-\frac{1}{2}\cos 2x + C,\ C \in \mathbb{R}$