

Quiz 2

$$\int \frac{e^{2x}}{\sqrt{1-e^{4x}}} dx = \int \frac{e^{2x}}{\sqrt{1-(e^{2x})^2}} dx = \frac{1}{2} \int \frac{1}{\sqrt{1-u^2}} du$$

Let $u = e^{2x}$

then $du = 2e^{2x} dx$
or

$$\frac{1}{2} du = e^{2x} dx$$

$$= \frac{1}{2} \sin^{-1}(u) + C$$

$$= \boxed{\frac{1}{2} \sin^{-1}(e^{2x}) + C}$$