

The curve $y = e^{-4x} \tan x$ has two stationary points in the interval $0 \leq x < \frac{1}{2}\pi$.

- (a) Obtain an expression for $\frac{dy}{dx}$ and show it can be written in the form $\sec^2 x(a + b \sin 2x)e^{-4x}$, where a and b are constants. [4]

[illegible]

(b) Hence find the exact x -coordinates of the two stationary points.

[3]

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