4. $$y = \operatorname{artanh}\left(\frac{\cos x + a}{\cos x - a}\right)$$

where a is a non-zero constant.

Show that

$$\frac{\mathrm{d}y}{\mathrm{d}x} = k \tan x$$

where k is a constant to be determined.

(4)

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Question 4 continued

(Total for Question 4 is 4 marks)

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