

Advanced Higher Maths
SQA 2021 Paper 2
Question 4

A curve is defined parametrically by

$$x = \sin^{-1} 2t \text{ and } y = \tan^{-1} t.$$

- (a) Find $\frac{dx}{dt}$ and $\frac{dy}{dt}$. 3
- (b) When $t = 0$ find the equation of the tangent to the curve. 2
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Answers:

- (a) $\frac{1}{1+t^2}$
- (b) $y = \frac{1}{2}x$