

Advanced Higher Maths
SQA 2025 Paper 2
Question 7

A curve is defined on a suitable domain by the equations $x = t^2$ and $y = \tan t$.

Find in terms of t :

- (a) $\frac{dy}{dx}$ 2
- (b) $\frac{d^2y}{dx^2}$. 3
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Answers:

- (a) $\frac{\sec^2 t}{2t}$
- (b) $\frac{2t \sec^2 t \tan t - \sec^2 t}{4t^3}$