

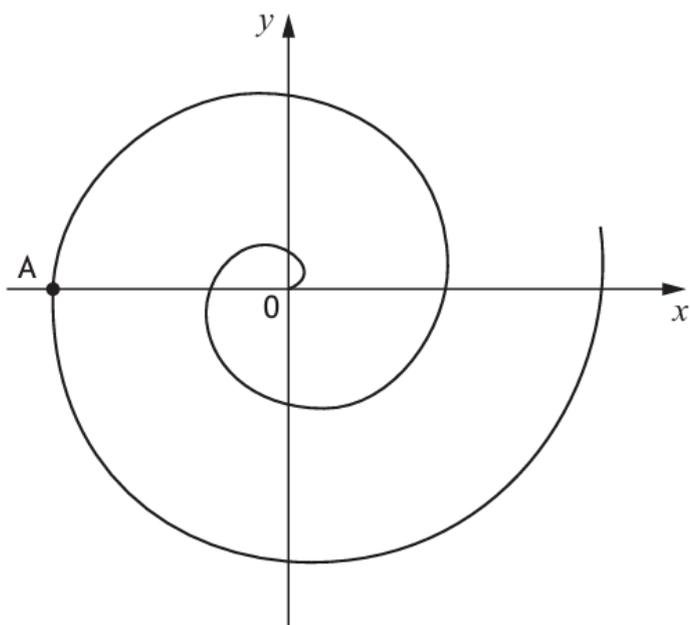
Advanced Higher Maths
SQA 2017 Paper
Question 18

The position of a particle at time t is given by the parametric equations
 $x = t \cos t$, $y = t \sin t$, $t \geq 0$.

(a) Find an expression for the instantaneous speed of the particle.

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The diagram below shows the path that the particle takes.



(b) Calculate the instantaneous speed of the particle at point A.

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Answers:

(a) $\sqrt{1+t^2}$

(b) $\sqrt{1+9\pi^2}$