

**Advanced Higher Maths
SQA 2016 Exemplar
Question 4**



The velocity, v , of a particle, P, at time, t , is given by

$$v = e^{3t} + 2e^t.$$

- (a) Find the acceleration of P at time t . 2
- (b) Find the distance covered by P between $t = 0$ and $t = \ln 3$. 2
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Answers:

(a) $3e^{3t} + 2e^t$

(b) $\frac{38}{3}$ or $12\frac{2}{3}$ or equivalent