

8 The curve  $C$  has equation  $y = 2x^2 - \sin x$

The point  $A$  on  $C$  has  $x$  coordinate  $\pi$

Show that an equation of the normal to  $C$  at the point  $A$  is

$$x + (4\pi + 1)y - \pi(8\pi^2 + 2\pi + 1) = 0 \quad (8)$$

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**Question 8 continued**

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**(Total for Question 8 is 8 marks)**

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