- 6 Given that  $y = x^2 \sqrt{(2x-3)}$ 
  - (a) show that  $\frac{dy}{dx} = \frac{x(5x 6)}{\sqrt{(2x 3)}}$

(4)

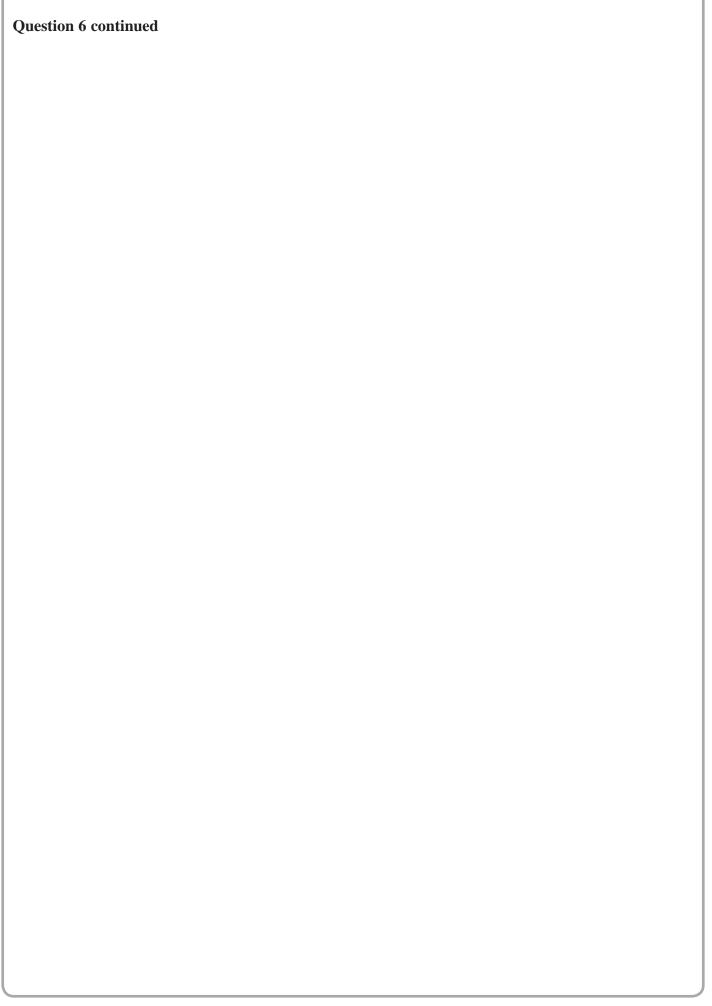
(b) find the value of  $\frac{dy}{dx}$  when x = 2

(1)

The curve C has equation  $y = x^2 \sqrt{(2x-3)}$ 

(c) Find an equation of the normal to C at the point on C where x = 2 Give your answer in the form ax + by + c = 0, where a, b and c are integers.

(5)



**Question 6 continued** 

**Question 6 continued** 

(Total for Question 6 is 10 marks)