

5 Given that  $y = 3x\sqrt{2x-1}$   $x > \frac{1}{2}$

(a) show that  $\frac{dy}{dx} = \frac{3(3x-1)}{\sqrt{2x-1}}$  (5)

The straight line  $l$  is the normal to the curve with equation  $y = 3x\sqrt{2x-1}$  at the point on the curve where  $x = 1$

(b) Find an equation, with integer coefficients, for  $l$ . (6)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

**Question 5 continued**

Area for writing answers to Question 5 continued.



P 4 8 4 0 8 A 0 1 3 3 6

Question 5 continued

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

**Question 5 continued****(Total for Question 5 is 11 marks)**

P 4 8 4 0 8 A 0 1 5 3 6