

9 The points  $A$ ,  $B$  and  $C$  have coordinates  $(-4, 4)$ ,  $(1, 6)$  and  $(-2, -1)$  respectively.

(a) Show, by calculation, that  $AB$  is perpendicular to  $AC$ .

(4)

(b) Find an equation for  $BC$  in the form  $px + qy + r = 0$ , where  $p$ ,  $q$  and  $r$  are integers.

(3)

The line  $l$  is the perpendicular bisector of  $AB$ .

(c) Find an equation for  $l$ .

(4)

The line  $l$  and the line  $BC$  intersect at the point  $E$ .

(d) Find the coordinates of  $E$ .

(2)

(e) Calculate the area of triangle  $AEC$ .

(4)

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**Question 9 continued**

Handwriting practice area with 20 horizontal dotted lines for writing the answer to Question 9.



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**Question 9 continued**

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**Question 9 continued****(Total for Question 9 is 17 marks)**

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