9 The point A has coordinates (-3, -6) and the point B has coordinates (5, -2)

The line l passes through the point A and the point B.

(a) Find an equation of l, giving your answer in the form y = mx + c

(3)

The point P has coordinates (k, -2). The line through A and P is perpendicular to l.

(b) Show that k = -5

(3)

The point Q has coordinates (e, f). The line through B and Q is also perpendicular to l.

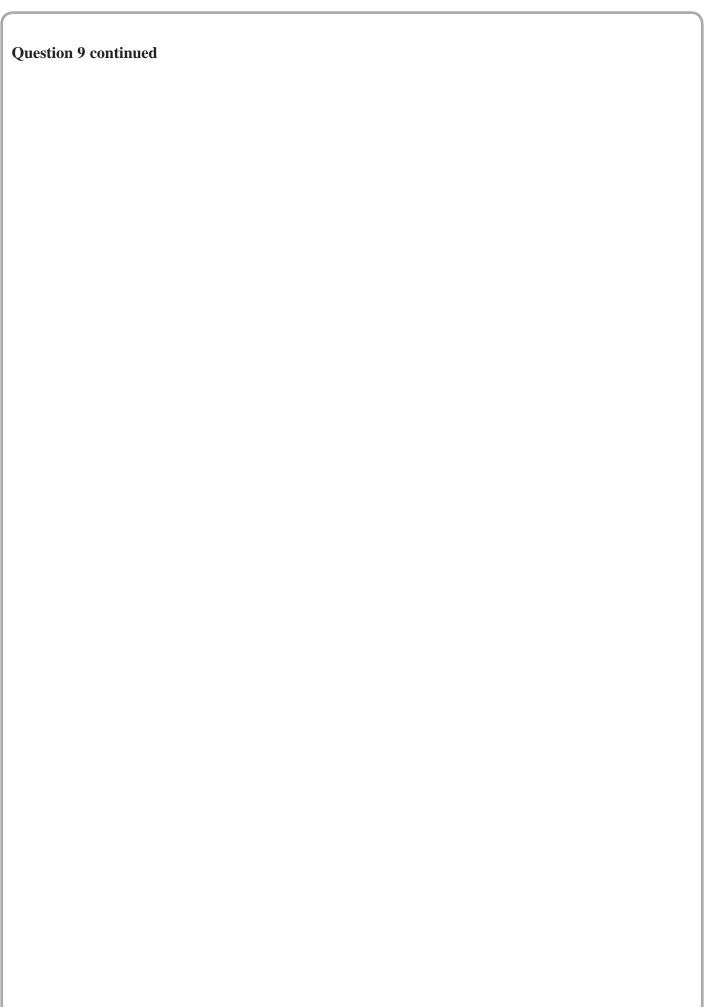
Given that the length of PQ is $\sqrt{85}$ and that f > 0

(c) find the coordinates of Q.

(6)

(d) Calculate the area of quadrilateral ABQP.

(4)



Question 9 continued

Question 9 continued

(Total for Question 9 is 16 marks)

