

- 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)

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(Total for Question 9 is 16 marks)

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