

6 Points A , B and C have coordinates $A(-3, 7)$, $B(5, 1)$ and $C(-1, k)$, where k is a constant.

(i) Given that $AB = BC$, calculate the possible values of k . [3]

The perpendicular bisector of AB intersects the x -axis at D .

(ii) Calculate the coordinates of D . [5]