

- 6** Three points, A , B and C , are such that B is the mid-point of AC . The coordinates of A are $(2, m)$ and the coordinates of B are $(n, -6)$, where m and n are constants.

(i) Find the coordinates of C in terms of m and n . [2]

The line $y = x + 1$ passes through C and is perpendicular to AB .

(ii) Find the values of m and n . [5]