

7 The line L_1 has equation $2x + y = 8$. The line L_2 passes through the point $A(7, 4)$ and is perpendicular to L_1 .

(i) Find the equation of L_2 . [4]

(ii) Given that the lines L_1 and L_2 intersect at the point B , find the length of AB . [4]