

THE LINE (Q 2, PAPER 2)

2005

- 2 (a) Find the distance between the two points $(3, 4)$ and $(15, 9)$.
- (b) L is the line $3x - 4y + 12 = 0$.
 L intersects the x -axis at a and the y -axis at b .
- (i) Find the co-ordinates of a and the co-ordinates of b .
- (ii) K is the line that passes through b and is perpendicular to L .
Show L and K on a co-ordinate diagram.
- (iii) Find the equation of K .
- (iv) The point $(2t, 3t)$ is on the line K . Find the value of t .
- (c) The lines $2x - y + 3 = 0$ and $4x - y + k = 0$ intersect at a point.
- (i) Find, in terms of k , the co-ordinates of the point of intersection of the lines.
- (ii) For what value of k is the point of intersection on the y -axis?

ANSWERS

2 (a) 13

(b) (i) $a(-4, 0)$, $b(0, 3)$

(iii) $4x + 3y - 9 = 0$

(iv) $t = \frac{9}{17}$

(c) (i) $\left(\frac{3-k}{2}, 6-k\right)$

(ii) $k = 3$

