The Line (Q 2, Paper 2)

2010

2 (a) Find the area of the triangle with vertices (0, 0), (8, –6) and (–1, 5).

(b) l is the line $3x - 4y - 15 = 0$.

(i) Verify that (1, –3) is a point on l.

(ii) l intersects the x-axis at P. Find the co-ordinates of P.

The line k passes through the point (1, –3) and is perpendicular to l.

(iii) Show the lines l and k on a co-ordinate diagram.

(iv) Find the equation of k.

(c) $A(2, -1)$ and $B(-4, 7)$ are two points.

(i) Find $|AB|$.

(ii) Find C, the image of B under the translation $(2, -1) \rightarrow (-7, 11)$.

(iii) Show that $|AB| : |AC| = 2:5$.

Answers

2 (a) 17 units squared

(b) (ii) $P(5, 0)$
(iv) $4x + 3y + 5 = 0$

(c) (i) 10
(ii) $C(-13, 19)$

(iii)