## The Line (Q 2, Paper 2)

2006

2 (a) $a(-2,6)$ and $b(4,3)$ are two points.
(i) Plot $a$ and $b$ on a co-ordinate diagram.
(ii) From your diagram, write down the co-ordinates of the point at which the line $a b$ cuts the $y$-axis.
(iii) Find the slope of $a b$.
(iv) Calculate the area of the triangle $a b c$, where the co-ordinates of $c$ are $(1,-3)$.
(b) $L$ is the line $3 x+2 y+c=0$.
(i) $(3,-1)$ is a point on $L$. Find the value of $c$.
(ii) The line $K$ is parallel to $L$ and passes through the point $(-2,5)$. Find the equation of $K$.
(iii) The lines $L$ and $K$, together with the line $x=3$ and the $y$-axis, form a parallelogram. Find the co-ordinates of the vertices of the parallelogram.

## Answers

2 (a) (i)

(ii) $(0,5)$
(iii) $-\frac{1}{2}$
(iv) $\frac{45}{2}$
(b) (i) $c=-7$
(ii) $3 x+2 y-4=0$
(iii) $(0,2),\left(3,-\frac{5}{2}\right),\left(0, \frac{7}{2}\right),(3,-1)$

