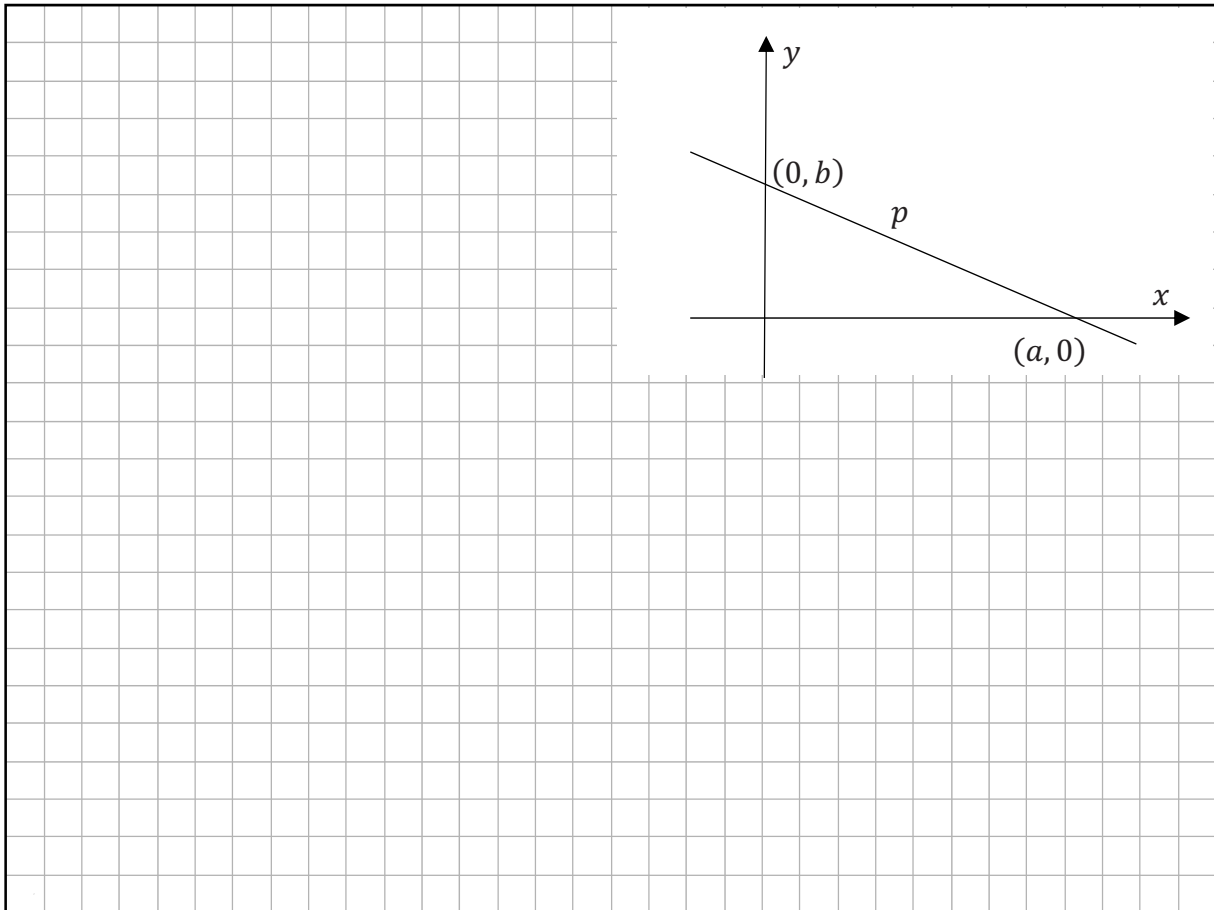


**Question 2**

**(25 marks)**

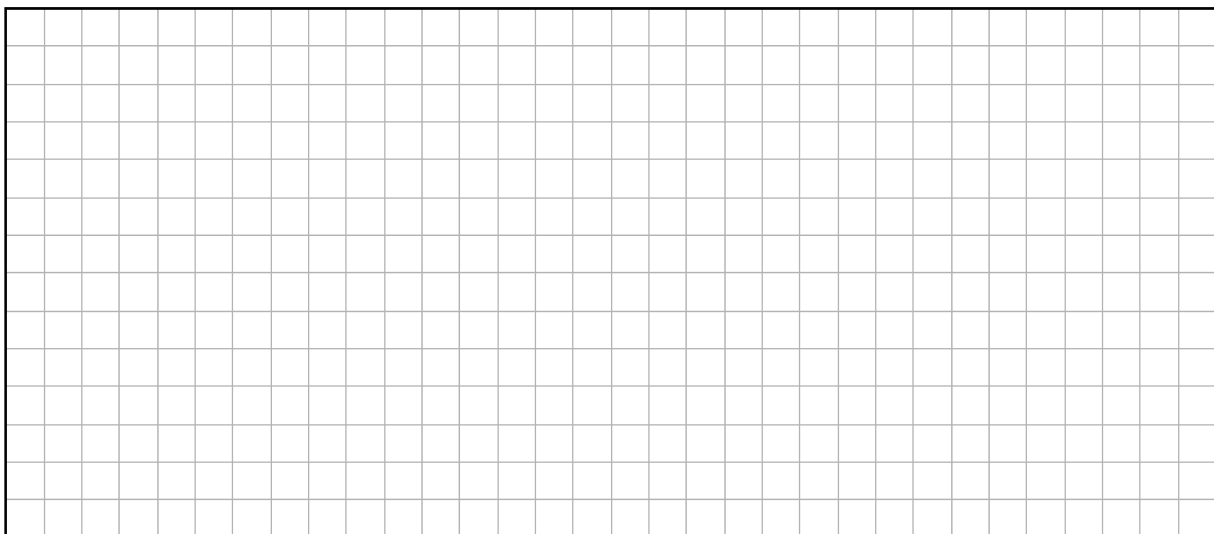
- (a)** The line  $p$  makes an intercept on the  $x$ -axis at  $(a, 0)$  and on the  $y$ -axis at  $(0, b)$ , where  $a, b \neq 0$ .

Show that the equation of  $p$  can be written as  $\frac{x}{a} + \frac{y}{b} = 1$ .



- (b)** The line  $l$  has a slope  $m$ , and contains the point  $A(6, 0)$ .

- (i)** Write the equation of the line  $l$  in terms of  $m$ .



- (ii) The line  $l$  cuts the line  $k: 4x + 3y = 25$  at  $P$ .  
Find the co-ordinates of  $P$  in terms of  $m$ .  
Give each co-ordinate as a fraction in its simplest form.

