

- 3** The line  $\frac{x}{a} + \frac{y}{b} = 1$ , where  $a$  and  $b$  are positive constants, meets the  $x$ -axis at  $P$  and the  $y$ -axis at  $Q$ . Given that  $PQ = \sqrt{45}$  and that the gradient of the line  $PQ$  is  $-\frac{1}{2}$ , find the values of  $a$  and  $b$ . [5]