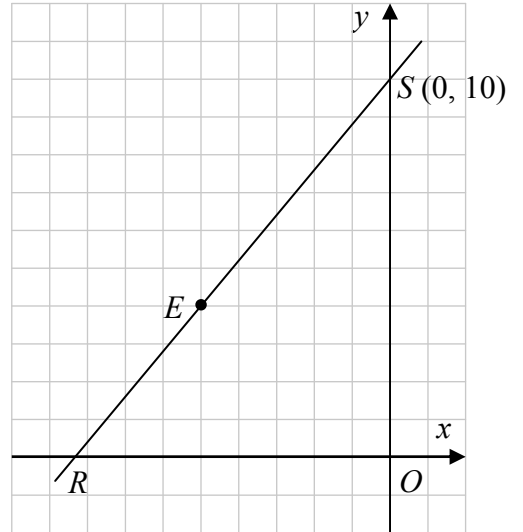


**Question 5**

**(25 marks)**

The line  $RS$  cuts the  $x$ -axis at the point  $R$  and the  $y$ -axis at the point  $S(0, 10)$ , as shown. The area of the triangle  $ROS$ , where  $O$  is the origin, is  $\frac{125}{3}$ .



- (a)** Find the co-ordinates of  $R$ .


- (b)** Show that the point  $E(-5, 4)$  is on the line  $RS$ .


- (c)** A second line  $y = mx + c$ , where  $m$  and  $c$  are positive constants, passes through the point  $E$  and again makes a triangle of area  $\frac{125}{3}$  with the axes. Find the value of  $m$  and the value of  $c$ .
