Question 5   (25 marks)
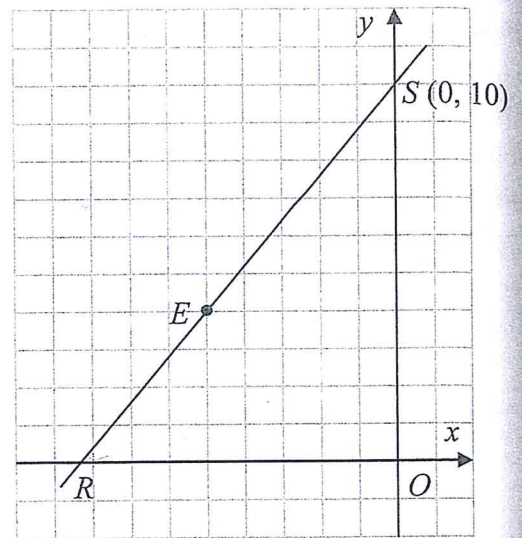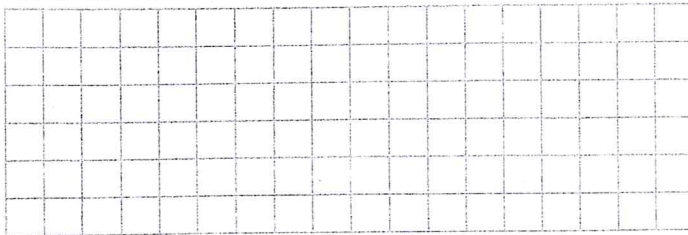
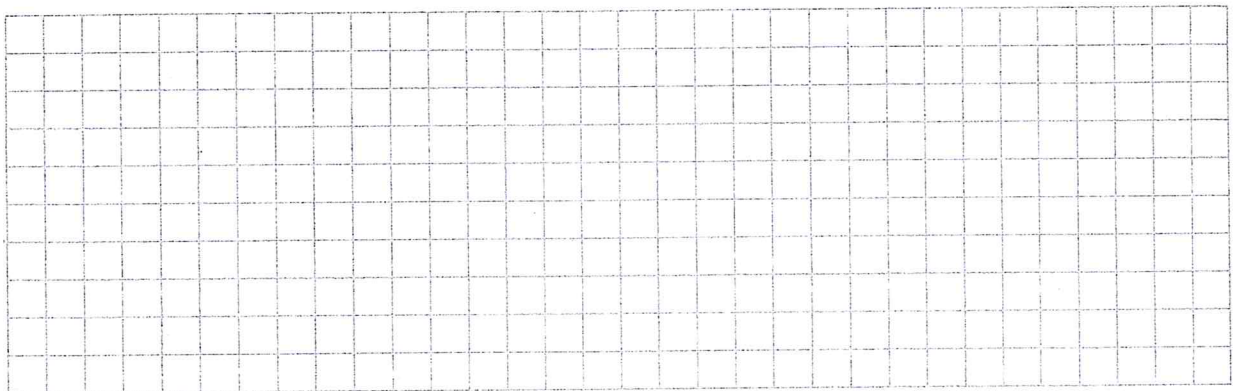The line RS cuts the x-axis at the point R and the y-axis at the point $S(0, 10)$, as shown. The area of the triangle ROS, where O is the origin, is $\dfrac{125}{3}$.

(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 $\dfrac{125}{3}$ with the axes. Find the value of m and the value of c.

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