9 A curve C has equation

$$y = \frac{2}{x} + 3$$

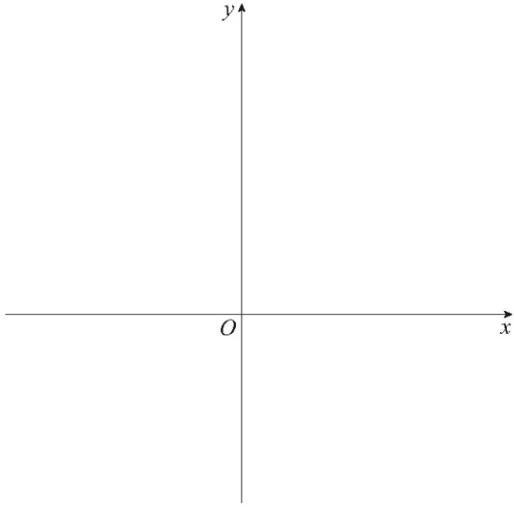
9 (a) Find the x-coordinate of the point where C crosses the x-axis.

[1 mark]

9 (b) Sketch the graph of C on the axes in **Figure 1**

[3 marks]

Figure 1



9 (c) The line L has equation

$$y = px + 2$$

where p is a constant.

9 (c) (i) Show that the x-coordinates of any points of intersection between C and L satisfy the equation

$$px^2 - x - 2 = 0$$

[2 marks]

9 (c) (ii) It is given that C and L intersect at 2 distinct points.

Find the range of possible values for p

[3 marks]