

4

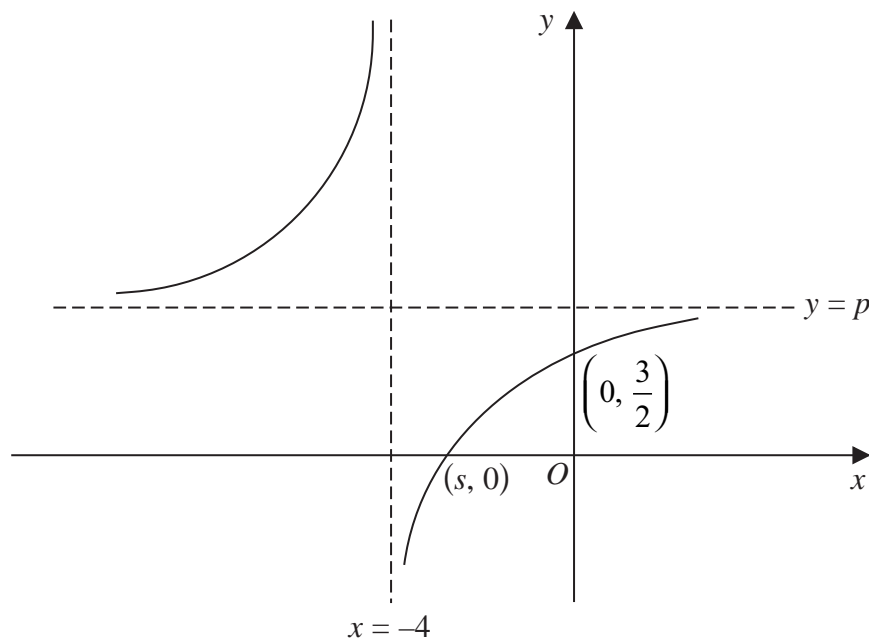
**Figure 1**

Figure 1 shows part of the curve C with equation

$$y = \frac{2x + q}{x + r} \quad x \neq -r$$

where q and r are integers.

The asymptote to C that is parallel to the y -axis has equation $x = -4$

The asymptote to C that is parallel to the x -axis has equation $y = p$

(a) Write down

(i) the value of p

(ii) the value of r

(2)

Given that C crosses the y -axis at the point with coordinates $\left(0, \frac{3}{2}\right)$

(b) find the value of q

(2)

Given that C crosses the x -axis at the point with coordinates $(s, 0)$

(c) find the value of s

(2)



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Question 4 continued

Handwriting practice area with horizontal dotted lines.

(Total for Question 4 is 6 marks)

