6

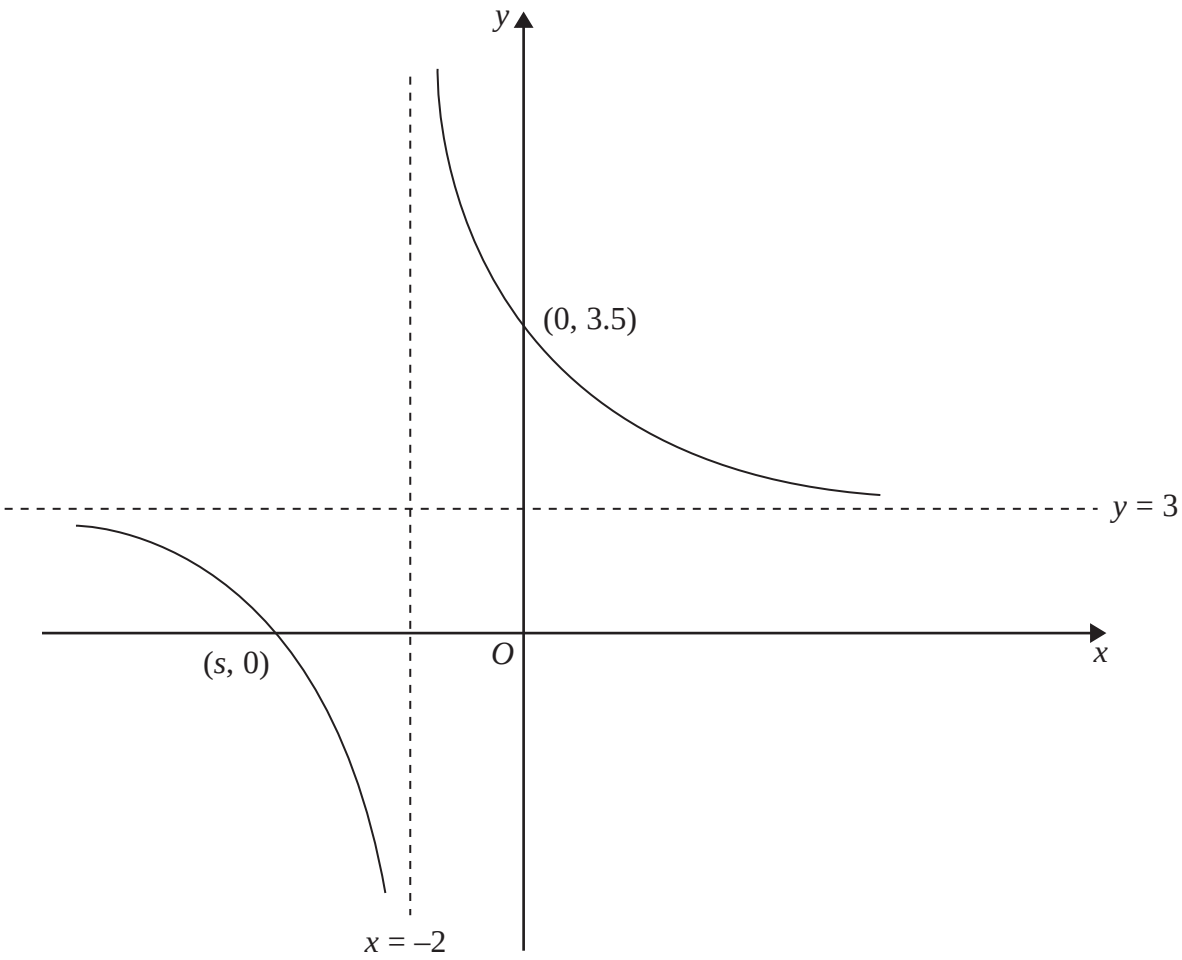

Figure 3

Figure 3 shows a sketch of the curve with equation

$$y = \frac{bx + c}{x + a} \qquad x \neq -a,$$

where a, b and c are integers.

The equations of the asymptotes to the curve are $x = -2$ and $y = 3$

The curve crosses the y-axis at (0, 3.5)

(a) Write down the value of a and the value of b.

(2)

(b) Find the value of c.

(2)

Given that the curve crosses the x-axis at $(s, 0)$

(c) find the value of s.

(2)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 6 continued

(Total for Question 6 is 6 marks)