9

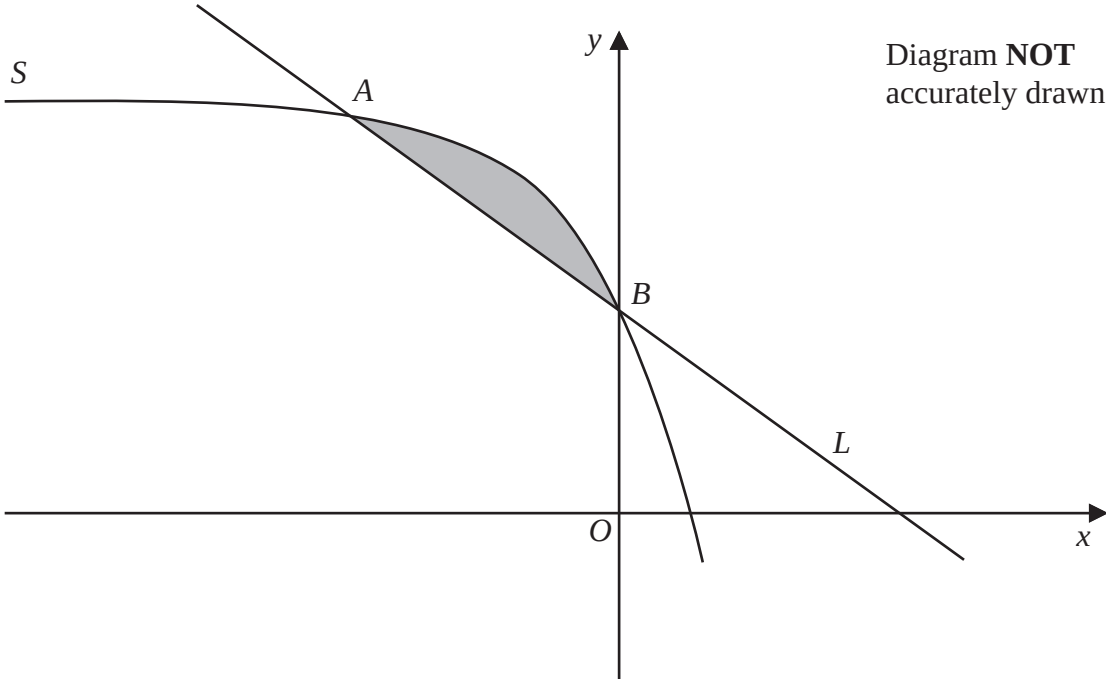

Diagram **NOT** accurately drawn

Figure 3

Figure 3 shows a sketch of part of the curve S with equation $y = -2e^{3x} + 4$ and the line L

The curve S has intersections with the line L at the points A and B with x coordinates $x = -1$ and $x = 0$ respectively.

The finite region bounded by S and L is shown shaded in Figure 3

Use calculus to find the exact area of this region.

Give your answer in the form $\dfrac{a + be^{-c}}{c}$ where a, b and c are integers to be found.

(8)

Question 9 continued

Question 9 continued

Question 9 continued

(Total for Question 9 is 8 marks)