9

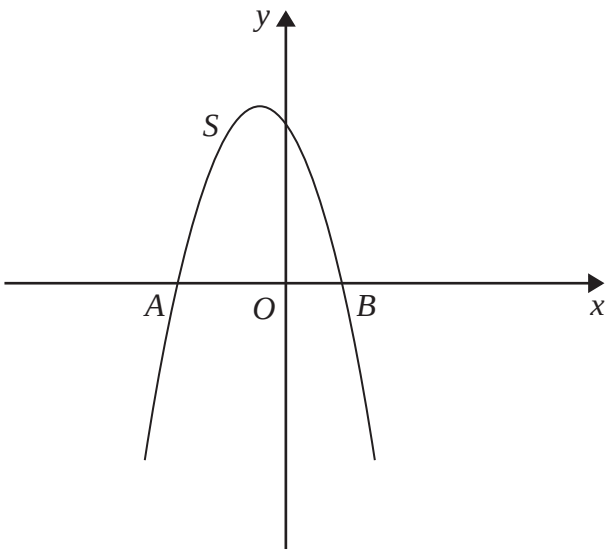

Figure 2

Figure 2 shows the curve S with equation $y = 8 - 2x - x^2$

The curve S crosses the x-axis at the points A and B.

(a) Find the x coordinate of A and the x coordinate of B.

(3)

(b) Use calculus to find the area of the finite region bounded by S and the x-axis.

(4)

The curve T with equation $y = x^2 + x + 6$ intersects S.

(c) Find the x coordinates of the points of intersection of S and T.

(2)

(d) Use calculus to find the area of the finite region bounded by S and T.

(4)

Question 9 continued

Question 9 continued

Question 9 continued

(Total for Question 9 is 13 marks)