7 The length of each side of a cube S_1 is increasing at a constant rate of 0.1 m/s.

(a) Find, in m^3/s, the rate of increase of the volume of the cube S_1 when the length of each side of the cube is 2 m.

(4)

The total surface area of a different cube S_2 is increasing at a constant rate of $0.05\,m^2/s$.

(b) Find in m^3/s, the rate of increase of the volume of the cube S_2 when the length of each side of the cube is 6 m.

(5)

Question 7 continued

Question 7 continued

Question 7 continued

(Total for Question 7 is 9 marks)