

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 $0.05 \text{ m}^2/\text{s}$.

- (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)

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(Total for Question 7 is 9 marks)

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