3 The volume of a right circular cone is increasing at a constant rate of $27\,\text{cm}^3/\text{s}$. The radius of the base of the cone is always 1.5 times the height of the cone.

Calculate the rate of change of the height of the cone, in cm/s to 3 significant figures, when the height of the cone is 4 cm.

(6)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Question 3 continued

(Total for Question 3 is 6 marks)