

- 2 Sand is poured onto horizontal ground at a rate of  $50 \text{ cm}^3/\text{s}$ . The sand forms a right circular cone with its base on the ground. The volume of the cone increases in such a way that the radius of the base is always three times the height of the cone. Find the rate of change, in  $\text{cm/s}$  to 3 significant figures, of the radius of the cone when the radius is  $10 \text{ cm}$ .

(5)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

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DO NOT WRITE IN THIS AREA

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**Question 2 continued**

Handwriting practice area with horizontal dotted lines.

**(Total for Question 2 is 5 marks)**

