

3

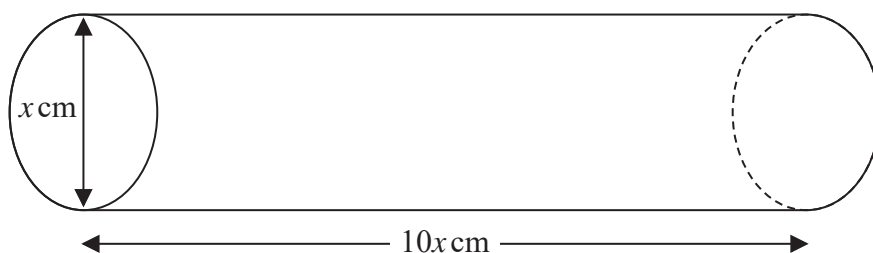
Diagram **NOT**  
accurately drawn**Figure 2**

Figure 2 shows a solid right circular cylindrical metal rod.

The diameter of the rod is  $x$  cm and the length of the rod is  $10x$  cm.

The rod is being heated so that the length of the rod is increasing at a rate of  $0.005$  cm/s.

Find the rate of increase, in  $\text{cm}^3/\text{s}$  to 2 significant figures, of the volume of the rod when  $x = 3$

(6)

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**Question 3 continued**

Handwriting practice area with horizontal dotted lines.

**(Total for Question 3 is 6 marks)**

