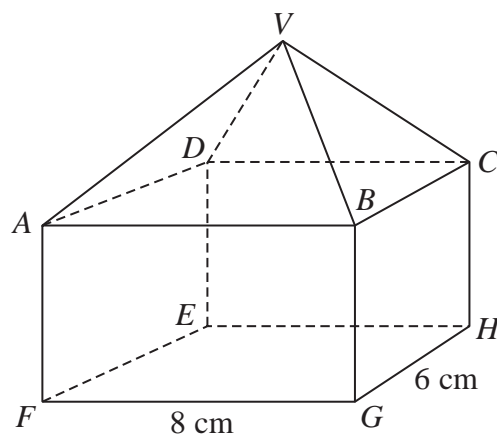**7**

Diagram **NOT** accurately drawn

Figure 2

Figure 2 shows a solid *VABCDEFGH* which is formed by joining a cuboid *ABCDEFGH* to a right pyramid *VABCD*. The height of the cuboid and the height of the pyramid are both h cm and $FG = 8$ cm and $GH = 6$ cm. The total volume of the solid is 256 cm³.

(a) Show that $h = 4$

(2)

(b) Find, in cm to 3 significant figures, the length of *VF*.

(3)

Find, to the nearest 0.1°,

(c) the angle between *VA* and the plane *ABCD*,

(3)

(d) the acute angle between the plane *VAB* and the plane *ABHE*.

(4)

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Question 7 continued

Question 7 continued

Question 7 continued

(Total for Question 7 is 12 marks)