4

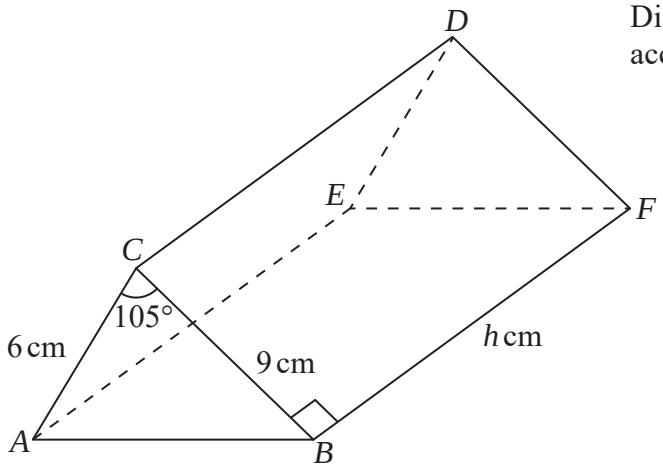

Diagram **NOT** accurately drawn

Figure 2

Figure 2 shows a solid triangular prism *ABCDEF*.
AC = 6 cm, *BC* = 9 cm and angle *ACB* = 105°

(a) Calculate the length, in cm to 3 significant figures, of *AB*.

(3)

(b) Calculate the area, in cm^2 to 3 significant figures, of triangle *ABC*.

(2)

BF = *h* cm and angle *CBF* = 90°
The volume of the prism is 352 cm^3

(c) Calculate the value, to 3 significant figures, of *h*.

(2)

(d) Calculate the total surface area, in cm^2 to 3 significant figures, of the prism.

(2)

$$\left[\begin{array}{c}\text{Area of triangle} = \frac{1}{2}ab\sin C \\ \text{Cosine rule: } a^2 = b^2 + c^2 - 2bc\cos A\end{array}\right]$$

Question 4 continued

Question 4 continued

Question 4 continued

(Total for Question 4 is 9 marks)