10

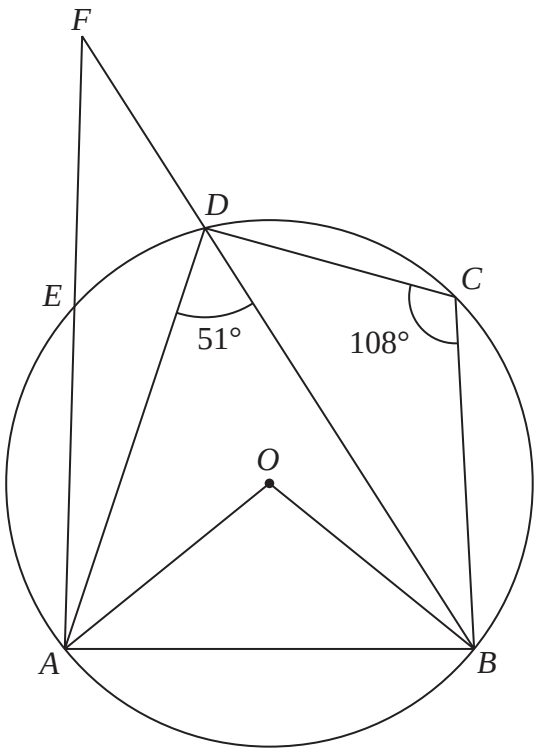

Diagram **NOT** accurately drawn

Figure 2

Figure 2 shows the circle $ABCDE$ with centre O.

The chords AE and BD intersect outside the circle at the point F.

$$\angle BCD = 108° \qquad \angle ADB = 51°$$

(a) Giving your reasons, show that $\angle OBD = 18°$

(5)

Given that $AE = 4.9\,\text{cm}$, $EF = 3.5\,\text{cm}$ and $DF = 3.0\,\text{cm}$,

(b) calculate the area, in cm^2 to 3 significant figures, of $\triangle ABF$.

(5)

$$\left[\begin{array}{l}\text{Sine Rule } \dfrac{a}{\sin A} = \dfrac{b}{\sin B} = \dfrac{c}{\sin C} \\ \text{Area of triangle} = \dfrac{1}{2}ab\sin C\end{array}\right]$$

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Question 10 continued

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Question 10 continued

(Total for Question 10 is 10 marks)