7

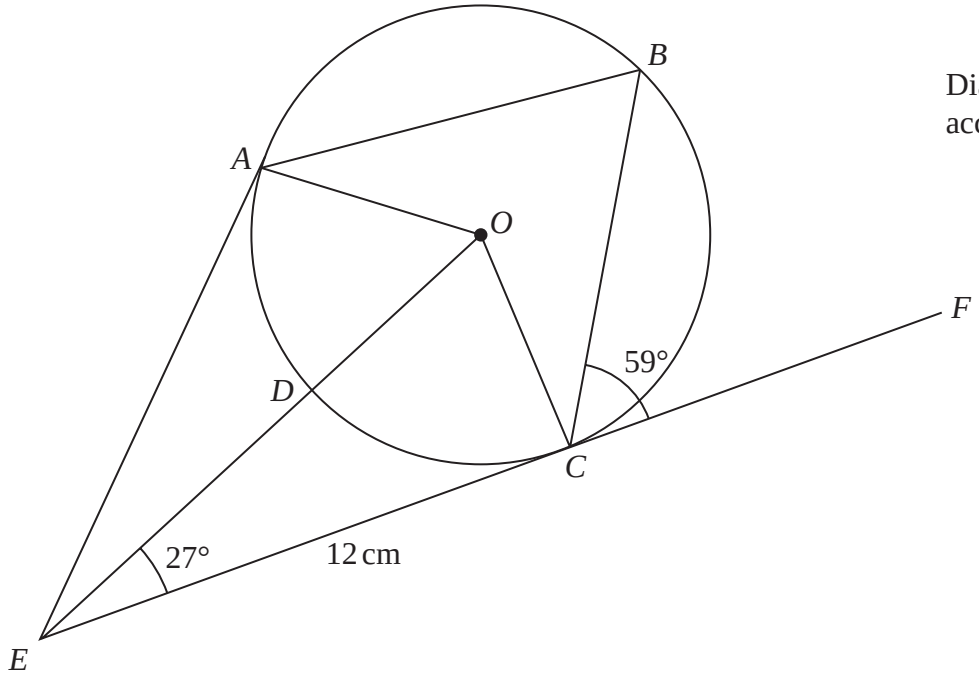

Diagram **NOT** accurately drawn

Figure 3

In Figure 3, *ABCD* is a circle, centre *O*.

EA is the tangent to the circle at *A*.
ECF is the tangent to the circle at *C*.
EDO is a straight line.

$\angle OEC = 27°$ $\angle BCF = 59°$ $EC = 12$ cm

(a) Explain why $\angle OCE = 90°$

(1)

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

(4)

(c) Giving reasons, calculate the size, in degrees, of $\angle ABC$.

(4)

(d) Calculate the size, in degrees, of $\angle ADC$.

(2)

(e) Calculate the size, in degrees, of $\angle BAO$.

(3)

Question 7 continued

Question 7 continued

Question 7 continued

(Total for Question 7 is 14 marks)