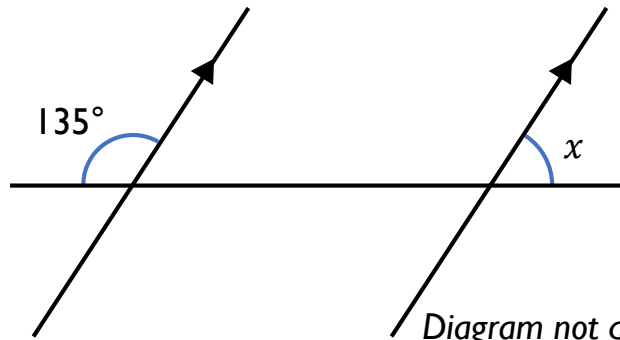


Geometrical reasoning

Name _____

1



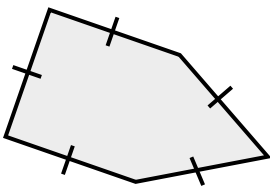
Work out the size of the angle marked x .
Give reasons for your answer.

$x =$ _____^o



3 marks

2



Find the sum of the interior angles of the polygon.

_____^o



1 mark

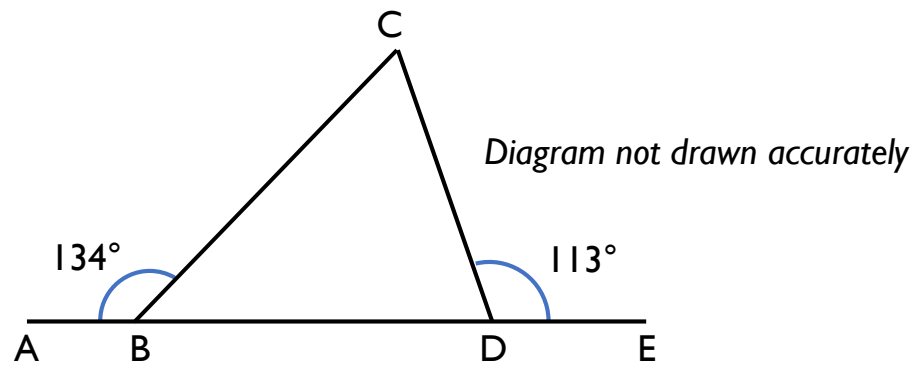
Annie says that the polygon is regular because all the sides are equal in length.

Do you agree? Explain your answer.



1 mark

3 ABDE is a straight line.

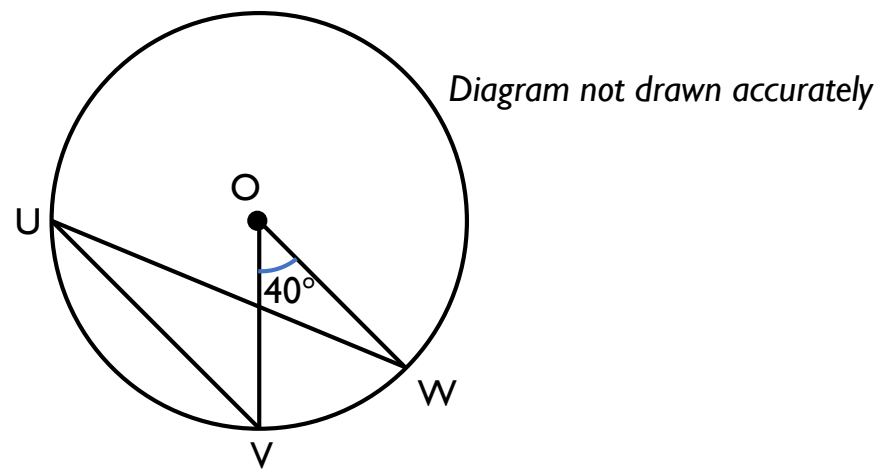


Show that triangle BCD is isosceles.
Give reasons for each stage of your working.



3 marks

4



U, V and W are points on the circumference of a circle with centre O.
Angle VOW = 40°
Work out the size of angle VUW.
Give reasons for your answer.



2 marks

$\angle VUW = \underline{\hspace{2cm}}^\circ$

5

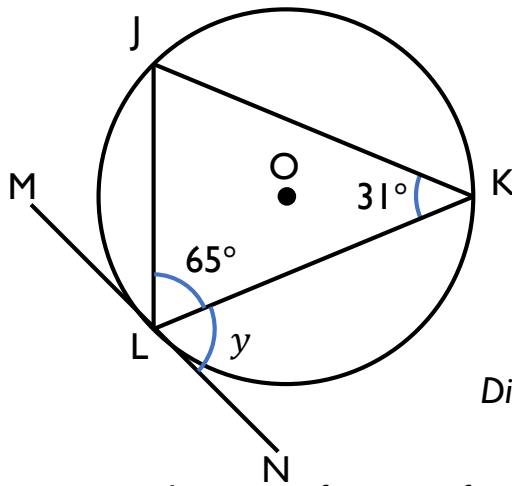


Diagram not drawn accurately

J, K and L are points on the circumference of a circle, centre O.

MLN is a tangent to the circle at L.

Find the value of y .

Give reasons for each stage of your working.

$$y = \underline{\hspace{2cm}}^\circ$$



3 marks

6 DE and DF are tangents to a circle, centre O.

Angle EDF = 50°

Work out the size of angle EOF

Give reasons for your answer.

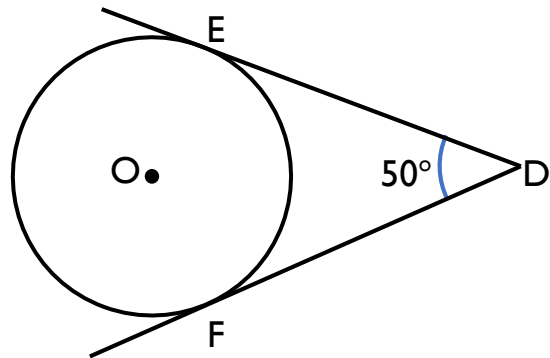
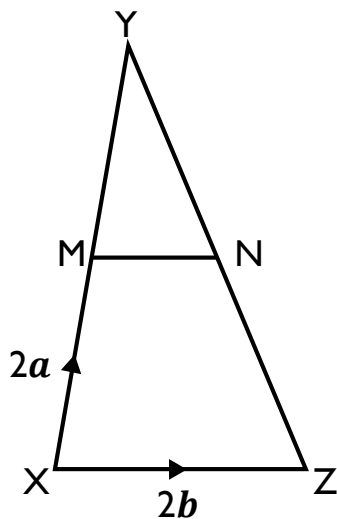


Diagram not drawn accurately



3 marks

- 7 In triangle XYZ , M and N are the midpoints of XY and XZ respectively.
 $\overrightarrow{XM} = 2\mathbf{a}$ and $\overrightarrow{XZ} = 2\mathbf{b}$



Write \overrightarrow{YZ} in terms of \mathbf{a} and \mathbf{b}



1 mark

Show that \overrightarrow{MN} is parallel to \overrightarrow{XZ}



3 marks