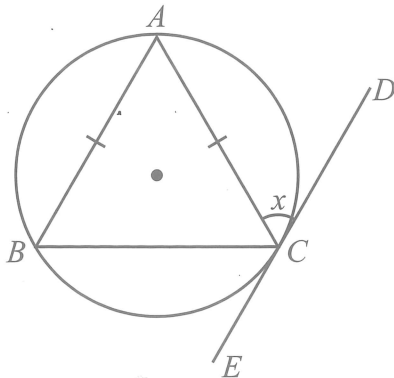


Circle Geometry

- 1 The diagram shows triangle ABC , where A , B and C are points on the circumference of a circle. $AB = AC$, and DE is a tangent to the circle at C .

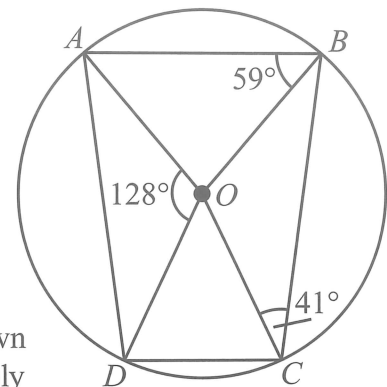


Angle $DCA = x$. DE is parallel to AB .
 Prove that ABC is an equilateral triangle.
 Give geometrical reasons to support the statements you make.

[Total 4 marks]

- 2 The diagram below shows the circle with centre O .
 A , B , C and D are points on the circumference of the circle.

Find the size of angle CDO .

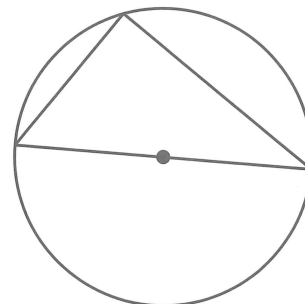


Not drawn accurately

$CDO = \dots\dots\dots^\circ$
 [Total 4 marks]

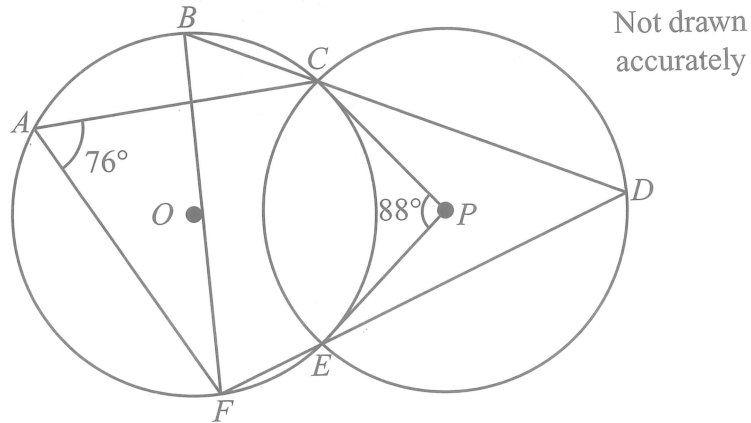
- 3 Prove that the angle formed at the circumference when a triangle is drawn from both ends of a diameter is 90° .

Start by splitting the triangle into two isosceles triangles.



[Total 3 marks]

- 4 The diagram below shows two intersecting circles with centres O and P . The circles intersect at C and E . A , B and F are points on the circumference with centre O , and D is a point on the circumference of the circle with centre P . BD and DF are straight lines.

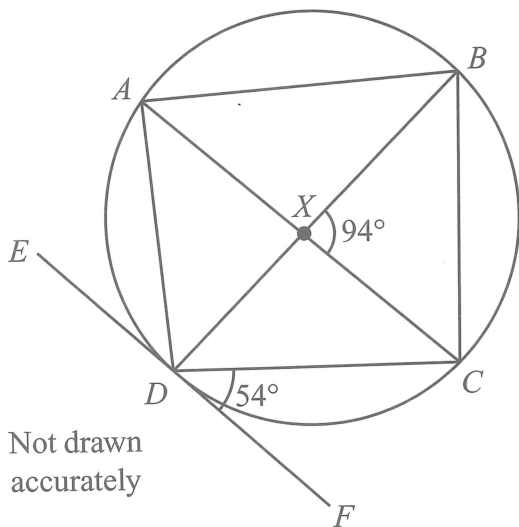


Find the size of angle BFE . Give reasons for each step of your working.

$BFE = \dots\dots\dots^\circ$
 [Total 3 marks]

- 5 Points A , B , C and D are points on the circumference of the circle below. EF is a tangent that meets the circle at D , and AC and BD are straight lines.

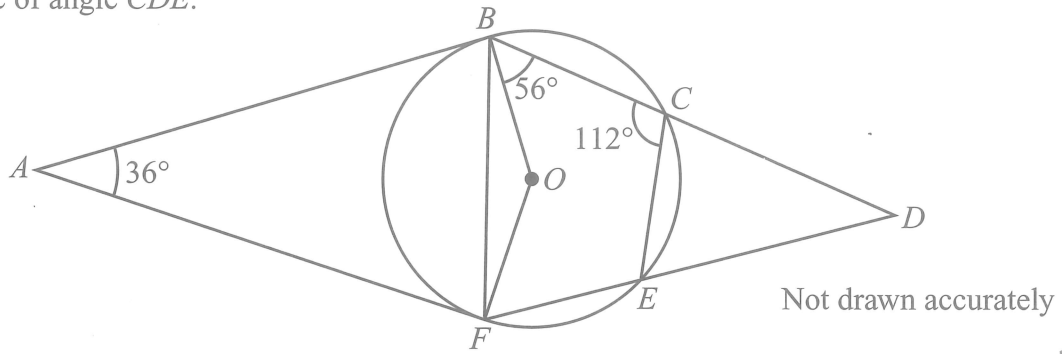
Show that X is NOT the centre of the circle.



[Total 4 marks]

- 6 The diagram shows a circle with centre O . B, C, E and F are points on the circumference of the circle. AB and AF are tangents to the circle, and BD and DF are straight lines.

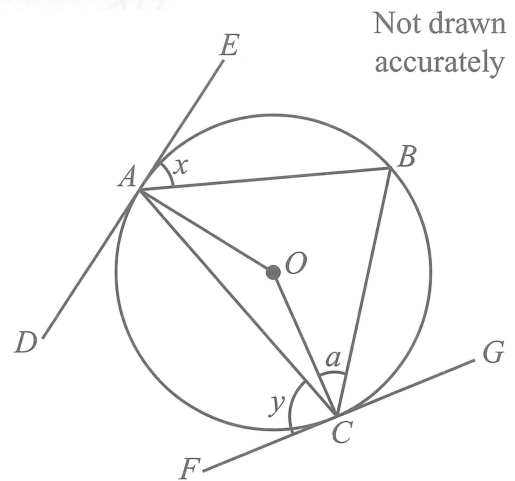
Find the size of angle CDE .



$CDE = \dots\dots\dots^\circ$
 [Total 5 marks]

- 7 The diagram shows a circle with centre O .
 DE is a tangent to the circle at A and FG is a tangent to the circle at C .

Prove that $a = x + y - 90^\circ$.
 State any circle theorems that you use.



[Total 4 marks]

Exam Practice Tip

It's not always easy to spot which circle theorems you need to use — so just go through them one by one until you find one that works. There are usually one or two you can discount straight away (for example, if there are no tangents on the diagram, you probably aren't going to need the theorems that involve tangents).

Score
<input type="text"/>
27

