Higher Maths Nov 2017 P1 Q4

In this question you will be assessed on the quality of your organisation, communication and accuracy in writing.

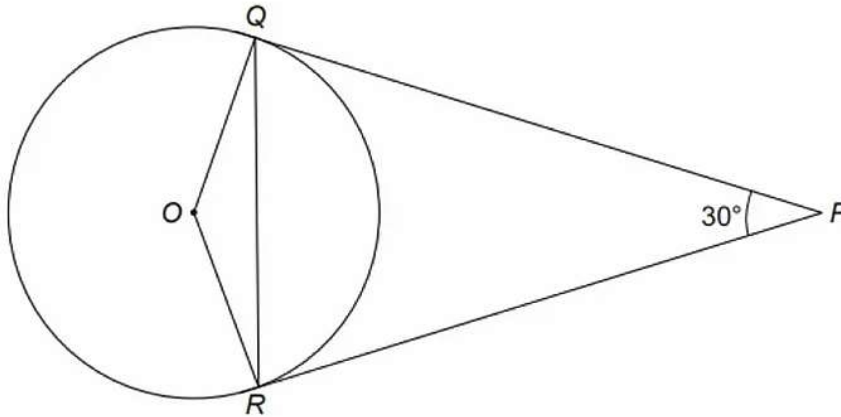*PQ* and *PR* are tangents to a circle with centre *O*.
$R\hat{P}Q = 30°$.

Diagram not drawn to scale

Find the size of $O\hat{Q}R$.

You must indicate any angles you calculate.
You must give a reason for each stage of your working.   [5 + 2 OCW]

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Higher Maths Summer 2018 P1 Q7
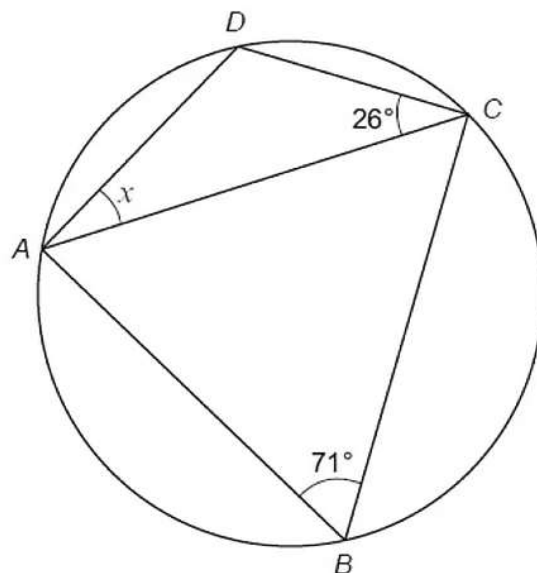
Calculate the size of angle x in the diagram below.   [3]

Diagram not drawn to scale

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Higher Maths Nov 2018 P1 Q7

In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.

A, B and C are points on the circumference of a circle with centre O.
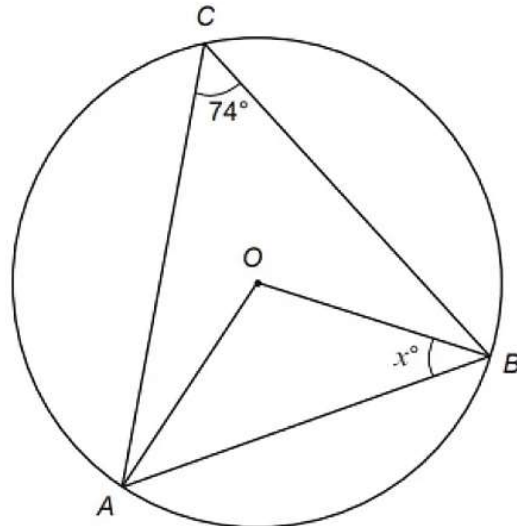
$\hat{ACB} = 74°$.

Diagram not drawn to scale

Calculate the value of x.
You must state any angle property of a circle that you use.
You must show all your working.

                                                   [4 + 2 OCW]
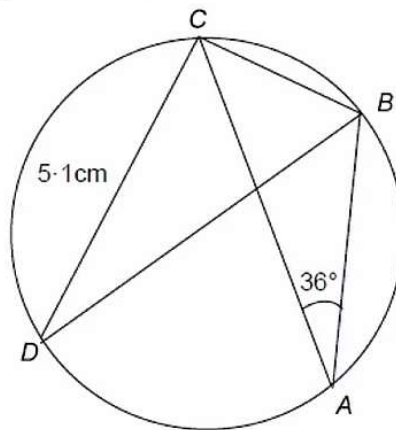
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Higher Maths Sample 2 P2 Q8

Diagram not drawn to scale

Points A, B, C and D lie on the circumference of a circle. BD is the diameter of the circle, CD = 5·1 cm and $B\hat{A}C = 36°$.

Calculate the length of the chord BC.
You must give reasons as part of your solution.

                                                    [5]

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Higher Maths Nov 2016 P2 Q8

In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.

Points A, B, C and D lie on the circumference of a circle, centre O.
BD is a diameter of the circle.
The straight line BC = 4·7 cm and $B\hat{A}C$ = 28°.

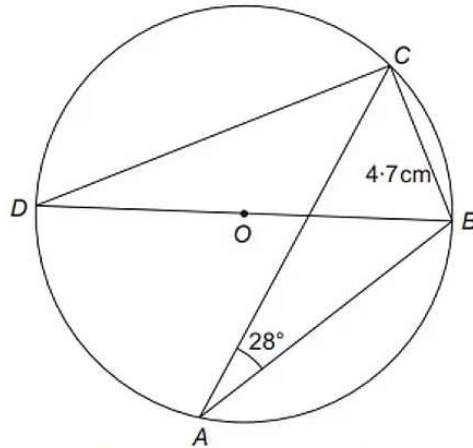*Diagram not drawn to scale*

Write down the size of $B\hat{D}C$.
Hence, calculate the length BD.
You must show all your working.

[5 + 2 OCW]

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Higher Maths June 2017 P2 Q10

Points A, B and C lie on the circumference of a circle, centre O.
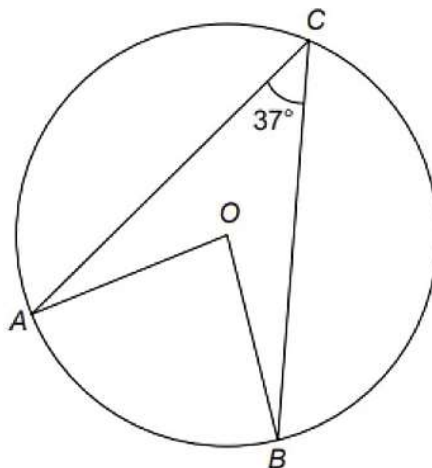$A\hat{C}B$ = 37°.

Diagram not drawn to scale

Calculate the size of the **reflex** angle $A\hat{O}B$.

[2]

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Higher Maths Summer 2019 P2 Q10

ABCD is a cyclic quadrilateral in a circle with centre O.
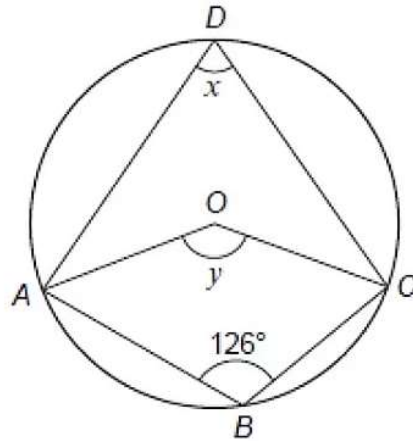$A\hat{B}C = 126°$.

Diagram not drawn to scale

Write down the size of each of the angles x and y.
You must give a reason for each of your answers.   [4]

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Higher Maths Nov 2017 P2 Q10

The line GH is a tangent to the circle at point Y.
The line EF is parallel to the line GH.
The vertices of triangle EFY lie on the circle.
$E\hat{Y}G = 60°$.

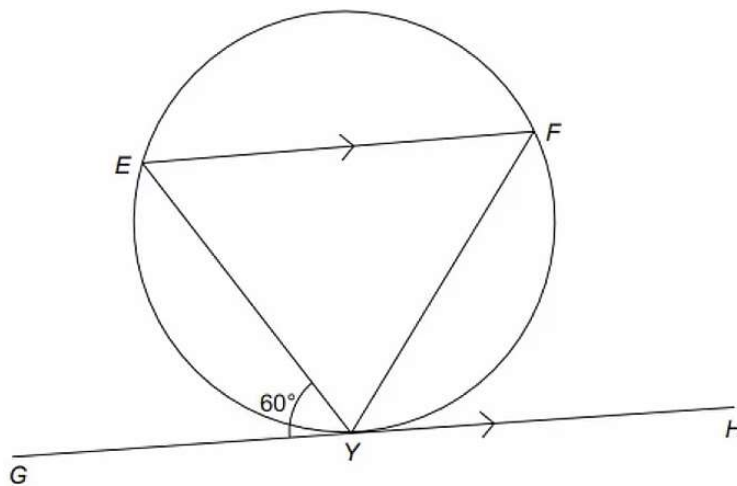Diagram not drawn to scale

Prove that EFY is an equilateral triangle.
Give a reason for each step to justify your proof.   [3]

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Higher Maths June 2017 P1 Q12

A, B and C are points on the circumference of a circle.
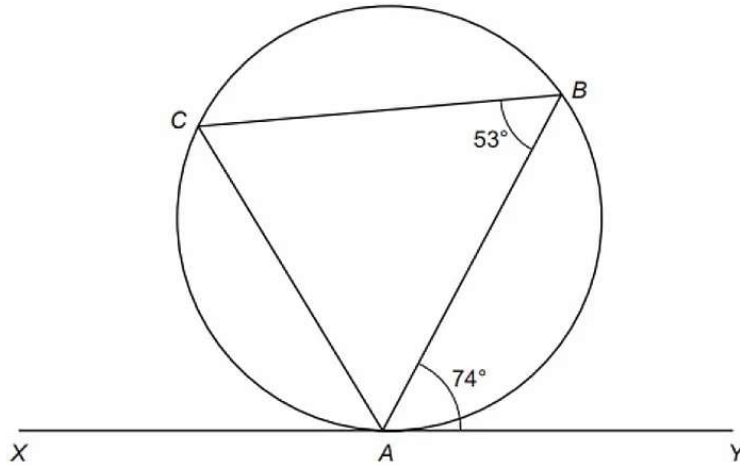XY is a tangent to the circle at the point A.

Diagram not drawn to scale

$B\hat{A}Y = 74°$ and $A\hat{B}C = 53°$.
Prove that triangle ABC is an isosceles triangle.
You must give a reason for any statement that you make or any calculation that you carry out.

[5]

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Higher Maths Nov 2016 P1 Q13

The points P, Q and R lie on the circumference of a circle, centre O.
PQ is a diameter of the circle.
The straight line ARB is a tangent to the circle.
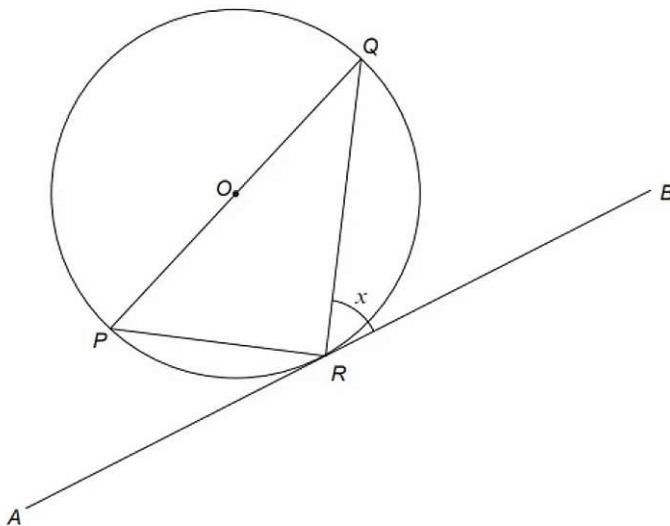
$Q\hat{R}B = x$, where x is measured in degrees.

Diagram not drawn to scale

Calculate the size of $P\hat{Q}R$ in terms of x.
You must give a reason for each step of your solution.   [4]

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Higher Maths Summer 2019 P1 Q14

The points A, B and C lie on the circumference of a circle.
The straight lines EBD and ECF are tangents to the circle.
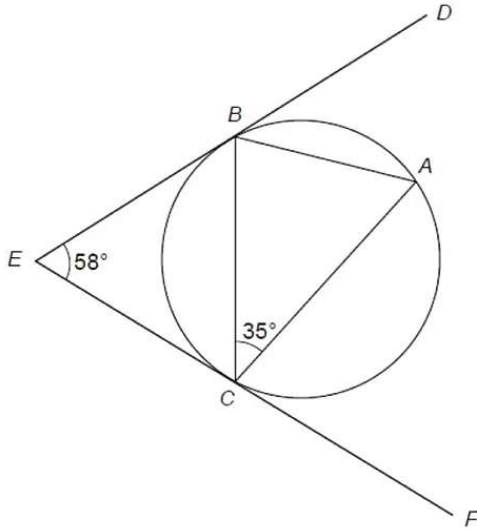$B\hat{E}C = 58°$ and $B\hat{C}A = 35°$.

Diagram not drawn to scale

Find the size of $A\hat{B}C$.
You must show all your working.   [4]

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Higher Maths Sample 1 P1 Q15

The points A, B and C lie on the circumference of a circle.

The straight line PBT is a tangent to the circle.
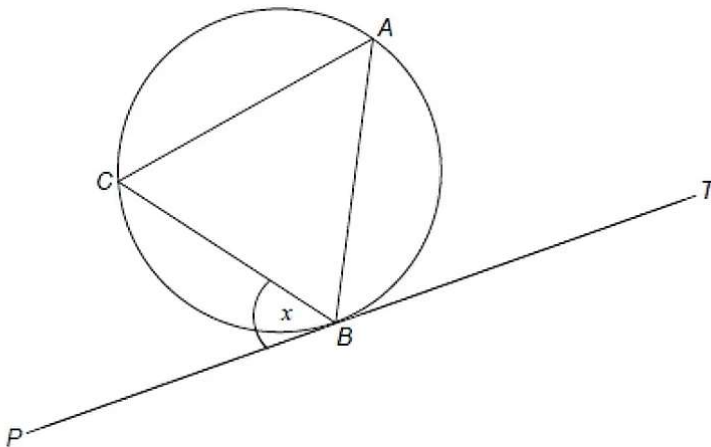$AB = AC$.
$C\hat{B}P = x$, where x is measured in degrees.

Diagram not drawn to scale

Show, giving reasons in your answer, that the size of $A\hat{B}C$, in degrees, is $90 - \frac{1}{2}x$.

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Higher Maths Summer 2018 P2_Q19

BC is the tangent to the circle at point E, as shown below.

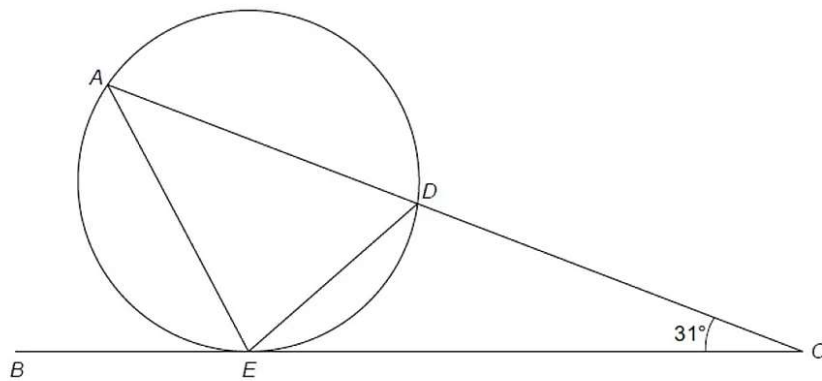EC = 8 cm, AC = 11 cm and $D\hat{C}E = 31°$.

Diagram not drawn to scale

(a)   Calculate the length of AE.   [3]

(b)   Calculate the size of $C\hat{E}D$.   [4]