



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Circle Theorem

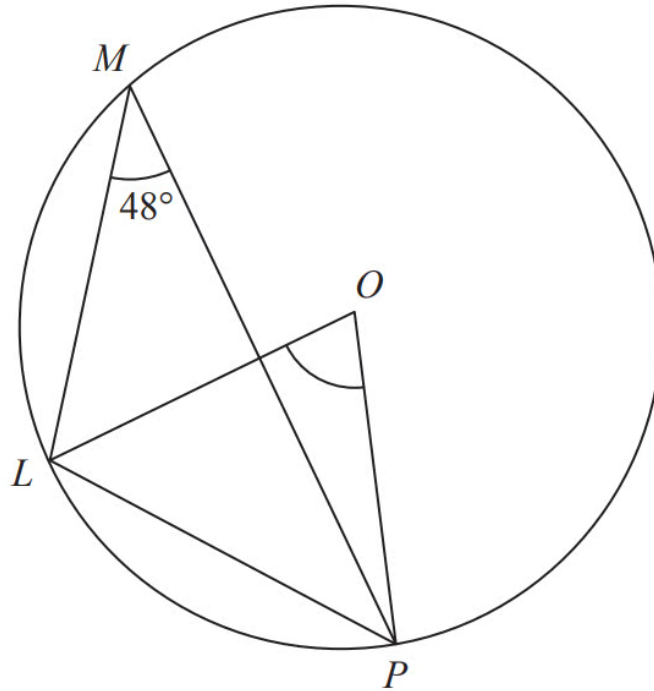
Question Paper

*"We will help you to
achieve A Star "*



Question 1

Diagram **NOT**
accurately drawn



L , M and P are points on a circle, centre O
Angle $LMP = 48^\circ$

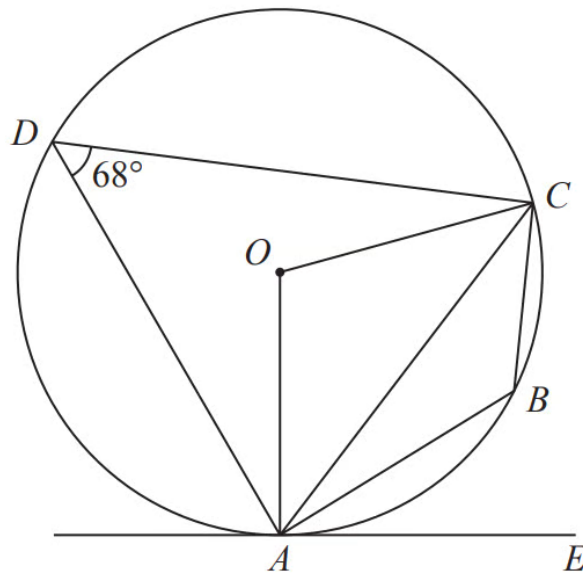
- (i) Write down the size of angle LOP
- (ii) Give a reason for your answer.

[2 marks]



Question 2

Diagram **NOT**
accurately drawn



A , B , C and D are points on a circle, centre O .
 AE is a tangent to the circle.
Angle $ADC = 68^\circ$

- (a) (i) Find the size of angle ABC .
- (ii) Give a reason for your answer.

[2 marks]



Question 3

(c) Find the size of angle CAE .

[1 mark]

Question 4

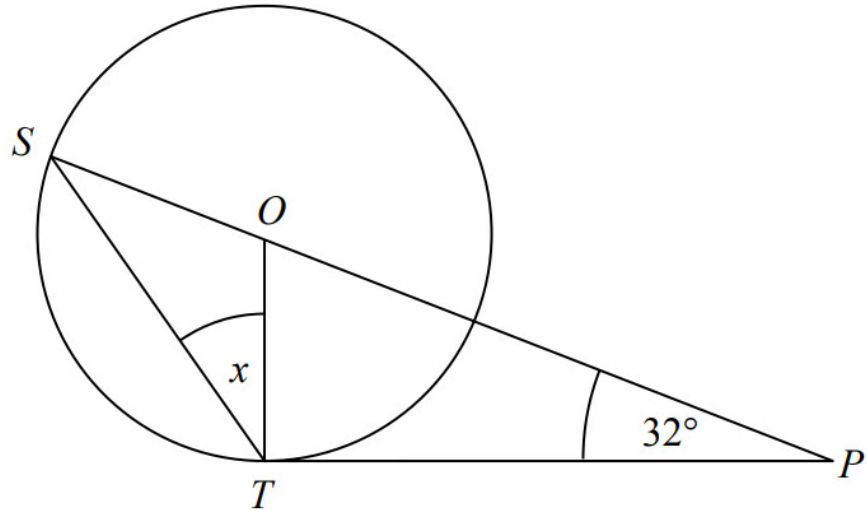
(b) (i) Find the size of angle EDH .

(ii) Give a reason for your answer.

[2 marks]



Question 5



S and *T* are points on the circumference of a circle, centre *O*.

PT is a tangent to the circle.

SOP is a straight line.

Angle $OPT = 32^\circ$

Work out the size of the angle marked *x*.

You must give a reason for each stage of your working.

[4 marks]



Question 6

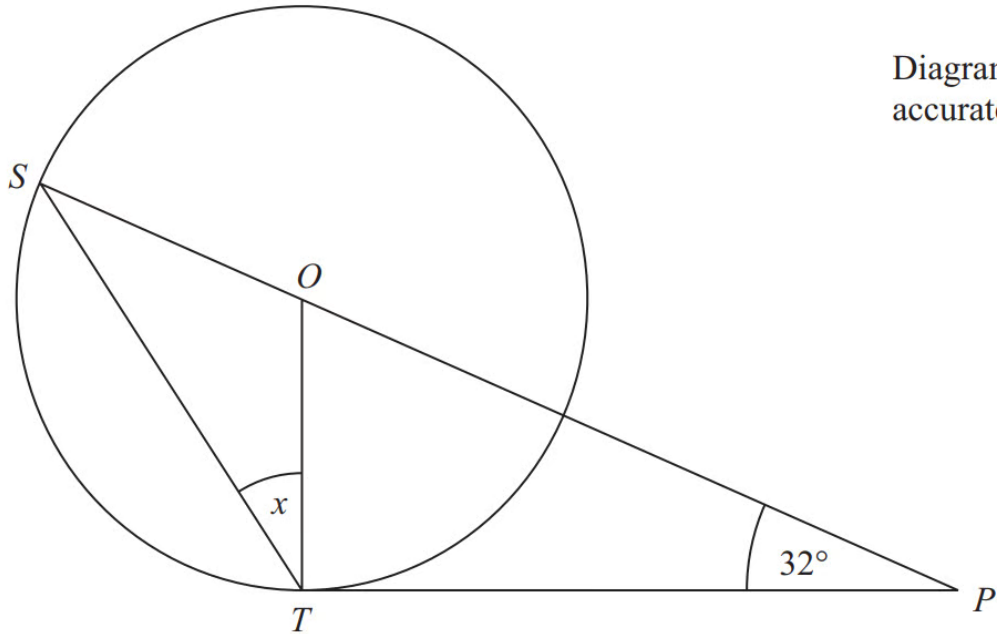


Diagram **NOT**
accurately drawn

S and T are points on the circumference of a circle, centre O .
 PT is a tangent to the circle.
 SOP is a straight line.

Angle $OPT = 32^\circ$

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

[5 marks]



Question 7

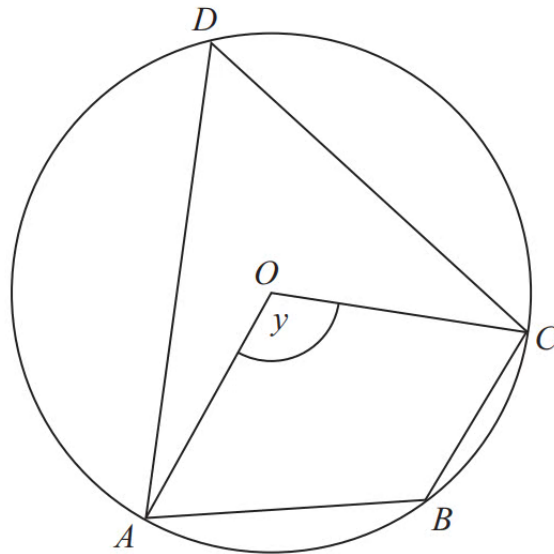


Diagram **NOT**
accurately drawn

A , B , C and D are points on the circumference of a circle, centre O .

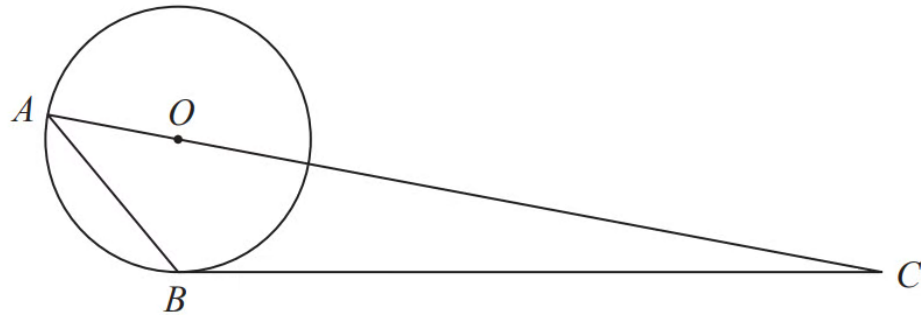
Angle $AOC = y$.

Find the size of angle ABC in terms of y .
Give a reason for each stage of your working.

[4 marks]



Question 8



A and *B* are points on a circle, centre *O*.

BC is a tangent to the circle.

AOC is a straight line.

Angle $ABO = x^\circ$.

Find the size of angle ACB , in terms of x .

Give your answer in its simplest form.

Give reasons for each stage of your working.

[5 marks]



Question 9

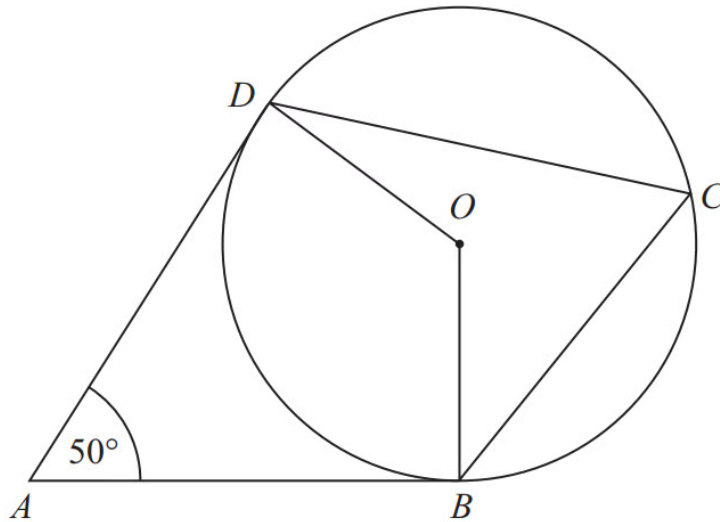


Diagram **NOT**
accurately drawn

B , C and D are points on the circumference of a circle, centre O .
 AB and AD are tangents to the circle.

Angle $DAB = 50^\circ$

Work out the size of angle BCD .
Give a reason for each stage in your working.

[4 marks]



Question 10

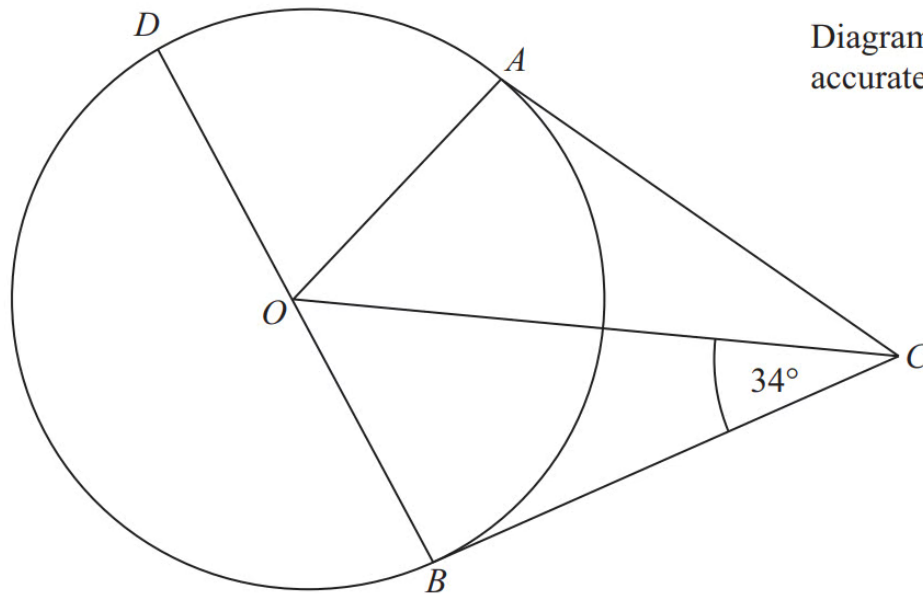


Diagram **NOT**
accurately drawn

A , B and D are points on the circumference of a circle, centre O .
 BOD is a diameter of the circle.
 BC and AC are tangents to the circle.
Angle $OCB = 34^\circ$.

Work out the size of angle DOA .

[3 marks]



Question 11

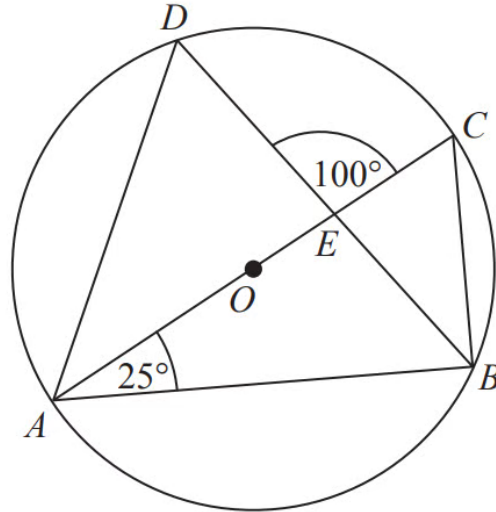


Diagram **NOT**
accurately drawn

A , B , C and D are points on the circumference of a circle, centre O .
 AC is a diameter of the circle.
 AC and BD intersect at E .

Angle $CAB = 25^\circ$
Angle $DEC = 100^\circ$

Work out the size of angle DAC .
You must show all your working.

[4 marks]



Question 12

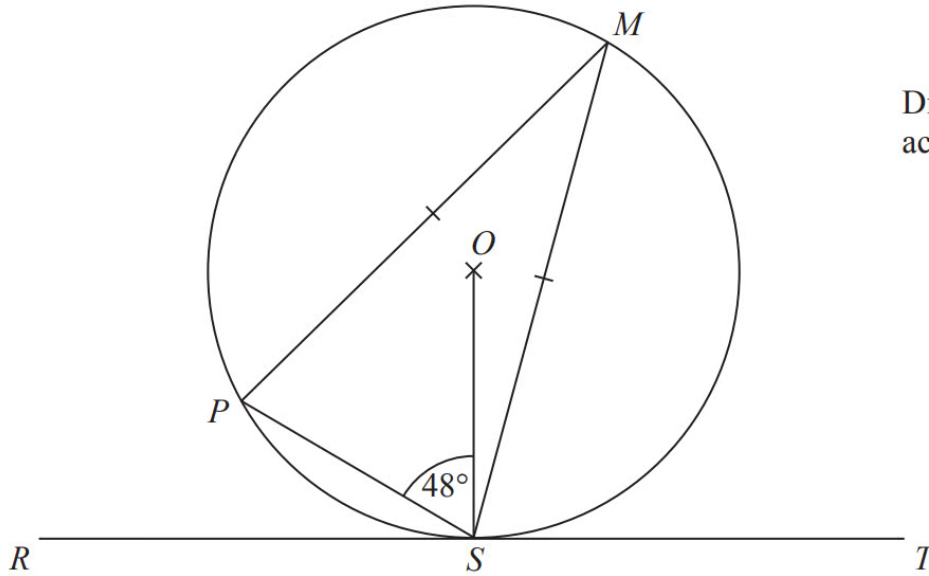


Diagram **NOT**
accurately drawn

P , M and S are points on a circle, centre O .
 RST is a tangent to the circle.

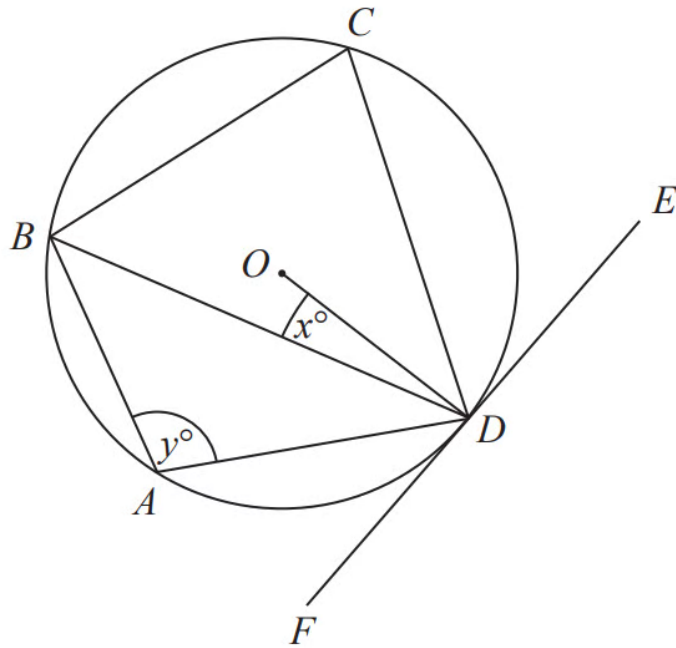
Angle $PSO = 48^\circ$
 $MP = MS$

Work out the size of angle MST .
Give reasons for each stage of your working.

[5 marks]



Question 13



A , B , C and D are points on the circumference of a circle, centre O .
 FDE is a tangent to the circle.

(a) Show that $y - x = 90$

You must give a reason for each stage of your working.

[3 marks]



Question 14

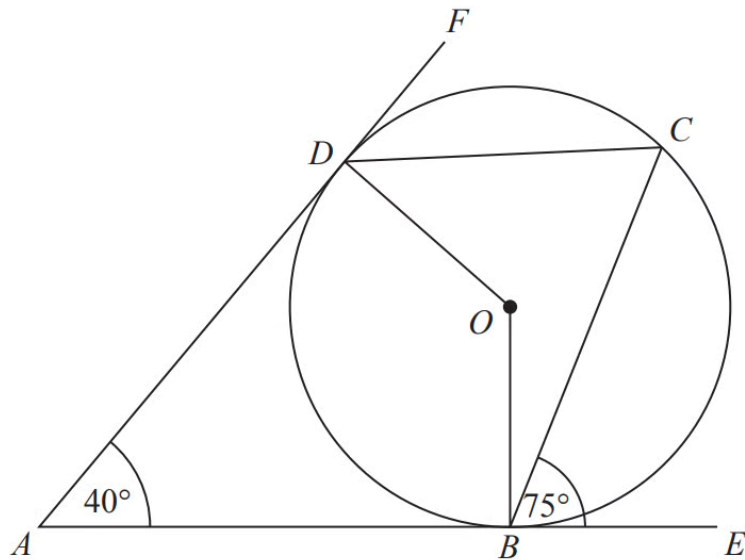


Diagram **NOT**
accurately drawn

B , C and D are points on the circumference of a circle, centre O .
 ABE and ADF are tangents to the circle.

Angle $DAB = 40^\circ$

Angle $CBE = 75^\circ$

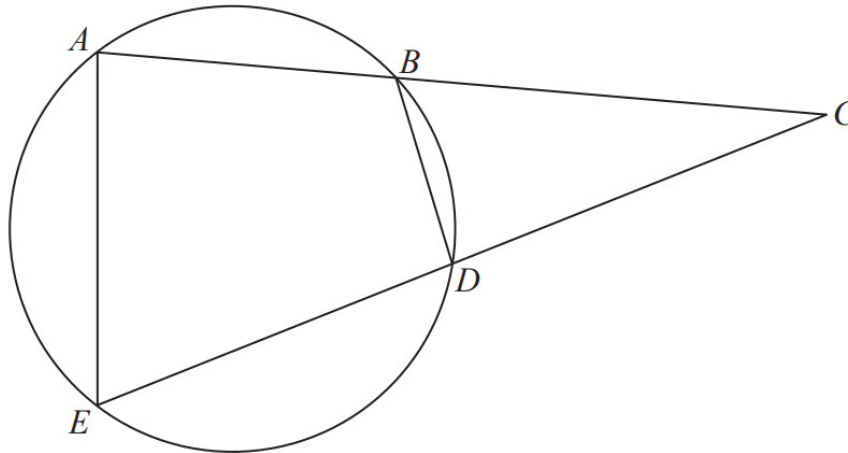
Work out the size of angle ODC .

[3 marks]



Question 15

Diagram **NOT**
accurately drawn



A , B , D and E are points on a circle.
 ABC and EDC are straight lines.

Prove that triangle BCD is similar to triangle ECA .
You must give reasons for your working.

[5 marks]