

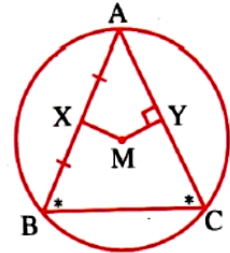
Revision Sheet

In the opposite figure :

[1] The triangle ABC is an inscribed triangle inside a circle M ,

$m(\angle B) = m(\angle C)$, X is the midpoint
of \overline{AB} , $\overline{MY} \perp \overline{AC}$

Prove that : $MX = MY$

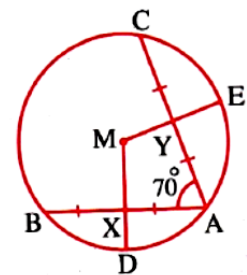


[2] \overline{AB} and \overline{AC} are two chords equal in length in the circle M

, X is the midpoint of \overline{AB} , Y is the midpoint of
 \overline{AC} and $m(\angle CAB) = 70^\circ$

1) **Calculate :** $m(\angle DME)$

2) **Prove that :** $XD = YE$



[3] \overline{AB} and \overline{AC} are two chords equal in length in the circle M

, X is the midpoint of \overline{AB} , \overrightarrow{MX} intersects the circle at D ,
 $\overrightarrow{MY} \perp \overline{AC}$ intersects it at Y and intersects the circle at E

Prove that : 1) $XD = YE$

2) $m(\angle YXB) = m(\angle XYC)$

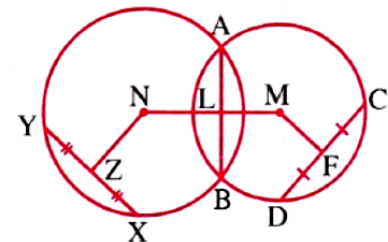


[4] M and N are two circles intersecting at A and B ,

$\overline{MN} \cap \overline{AB} = \{L\}$, F is the midpoint of \overline{CD} ,

Z is the midpoint of \overline{XY} , $MF = ML$ and $NL = NZ$

Prove that : $CD = XY$



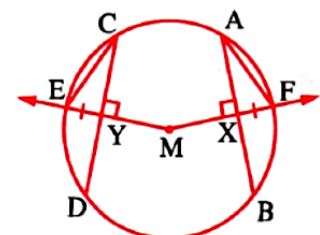
[5] \overline{AB} and \overline{CD} are two chords of the circle M ,

$\overrightarrow{MX} \perp \overline{AB}$ and intersects the circle at F ,

$\overrightarrow{MY} \perp \overline{CD}$ and intersects the circle at E , $FX = EY$

Prove that : 1) $AB = CD$

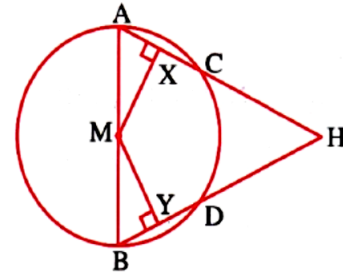
2) $AF = CE$



[6] \overline{AB} is a diameter of the circle M, \overline{AC} and \overline{BD} are two chords in it,
 $MX = MY$, $MX \perp \overline{AC}$, $MY \perp \overline{DB}$

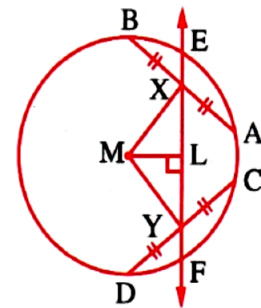
Prove that : 1) $\triangle HAB$ is isosceles triangle .

2) $HC = HD$



[7] \overline{AB} and \overline{CD} are two chords of the circle M,
 equal in length, X and Y are the two midpoints
 of \overline{AB} and \overline{CD} respectively. \overleftrightarrow{XY} is drawn to cut
 the circle at E and F, \overline{ML} is drawn $\perp \overleftrightarrow{XY}$

Prove that : $XE = YF$



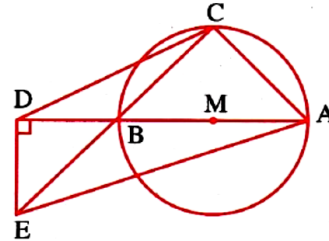
(2)

In the opposite figure :

[1] \overline{AB} is a diameter in the circle M .

Draw $\overrightarrow{DE} \perp \overrightarrow{AB}$ and $\overrightarrow{CB} \cap \overrightarrow{DE} = \{E\}$

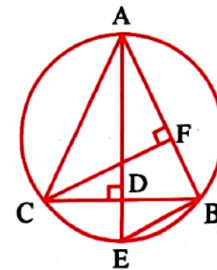
Prove that : ACDE is a cyclic quadrilateral .



[2] $\overrightarrow{AD} \perp \overrightarrow{BC}$ and cuts it at D and cuts the circle at E
 $\overrightarrow{CF} \perp \overrightarrow{AB}$ and cuts it at F

Prove that : 1) The figure AFDC is a cyclic quadrilateral .

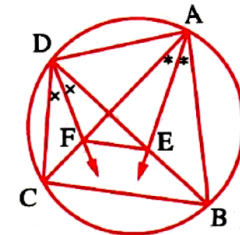
2) $m(\angle EBC) = m(\angle DFC)$



[3] ABCD is a cyclic quadrilateral which has \overrightarrow{AE} bisects $\angle BAC$ and \overrightarrow{DF} bisects $\angle BDC$

Prove that : 1) AEFD is a cyclic quadrilateral .

2) $\overline{EF} \parallel \overline{BC}$

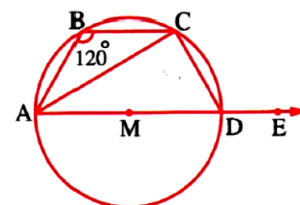


[4] ABCD is a quadrilateral inscribed in a circle M

Where $m(\angle B) = 120^\circ$, \overline{AD} is a diameter in the circle , $E \in \overrightarrow{AD}$.

1) **Find :** $m(\angle CDE)$, $m(\angle CAD)$

2) If $DC = 7$ cm. , **Find :** the length of \widehat{AD} ($\pi = \frac{22}{7}$)



[5] M and N are two intersecting circle at A and B ,

\overleftrightarrow{AD} is drawn to intersect circle M at E and circle N at D ,

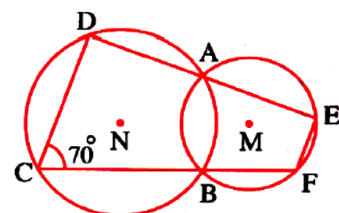
\overleftrightarrow{BC} is drawn to intersect circle M at F and circle N at C

and $m(\angle C) = 70^\circ$

1) **Find :** $m(\angle F)$

2) **Prove that :** $\overleftrightarrow{CD} \parallel \overleftrightarrow{EF}$

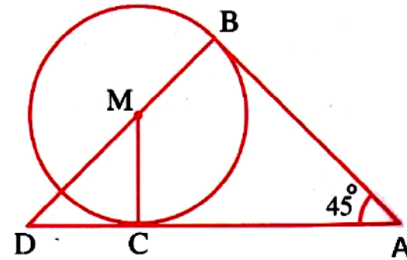
[6]



[6] \overline{AB} and \overline{AC} touch the circle M at B and C respectively
 $m(\angle A) = 45^\circ$

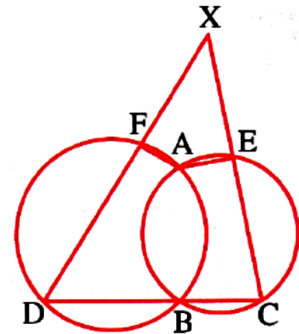
Prove that :

- 1) The figure ABMC is a cyclic quadrilateral .
- 2) $\triangle MCD$ is an isosceles triangle .



[7] Two intersecting circles at A and B , \overline{CD} passes through
 The point B and intersects the two circles at C and D
 $\overrightarrow{CE} \cap \overrightarrow{DF} = \{X\}$

Prove that : AFXE is a cyclic quadrilateral .



[8] \overline{AB} is a chord in the circle M and \overline{CD} is
 a perpendicular diameter on \overline{AB} and intersects it at E
 \overrightarrow{BM} intersects the circle at X and $\overline{XD} \cap \overline{AB} = \{Y\}$

Prove that : 1) XYEC is a cyclic quadrilateral .

2) $m(\angle DYB) = m(\angle DBX)$

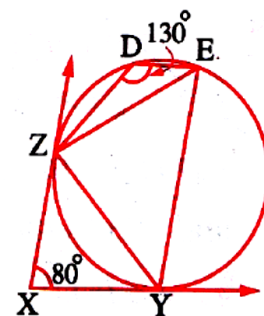


[9] In opposite figure :

\overrightarrow{XY} , \overrightarrow{XZ} are two tangents to the circle at Y and Z
 $m(\angle YXZ) = 80^\circ$

And $m(\angle EDZ) = 130^\circ$

Prove that : 1) $ZE = ZY$ 2) $\overline{XZ} \parallel \overline{YE}$



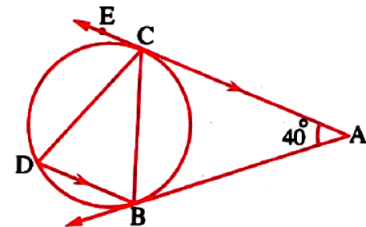
[10] In the opposite figure :

\overrightarrow{AB} and \overrightarrow{AC} touch the circle at B and C
 $\overline{AC} \parallel \overline{BD}$ and $m(\angle A) = 40^\circ$

Find with proof :

1) $m(\angle ACB)$ 2) $m(\angle ECD)$

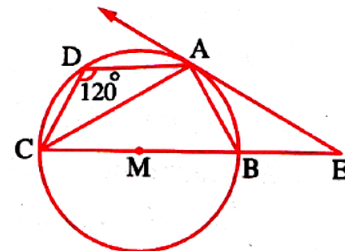
Then prove that : $CB = CD$



[11] In the opposite figure :

ABCD is a cyclic quadrilateral ,
 \overline{BC} is a diameter ,
 \overrightarrow{EA} is a tangent for the circle at point A
 and $m(\angle ADC) = 120^\circ$

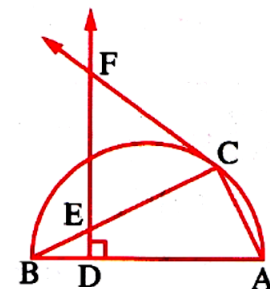
Prove that : $BA = BE$ 2) $m(\angle ABE) = m(\angle EAC)$



[12] In the opposite figure :

\overline{AB} is a diameter of the semicircle ,
 \overline{CF} is a tangent to it at C and $\overrightarrow{DF} \perp \overline{AB}$

- 1) Prove that : The figure ADEC is a cyclic quadrilateral .
- 2) Prove that : $\triangle FCE$ is isosceles .
- 3) Determine the centre of the circle passing through the vertices of the quadrilateral ADEC.



[13] In the opposite figure :

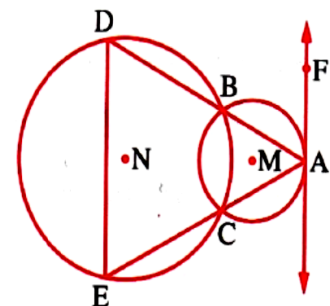
Two circle are intersecting at B and C

, A \in one of the two circles ,

\overleftrightarrow{AF} is drawn as a tangent to it at A

. then \overrightarrow{AB} and \overrightarrow{AC} are drawn to cut the other circle at D and E

Prove that : $\overleftrightarrow{AF} \parallel \overleftrightarrow{DE}$



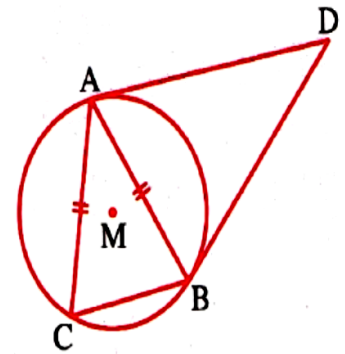
[14] In the opposite figure :

\overline{DA} and \overline{DB} are two tangent – segments to the circle M at A and B.

C \in the circle M such that $AB = AC$

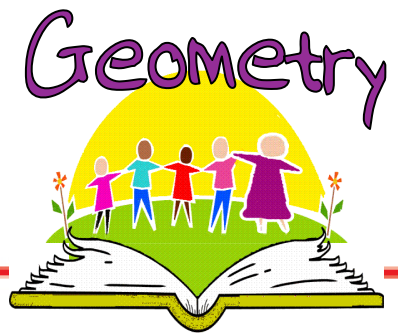
Prove that :

\overleftrightarrow{AC} is a tangent to the circum circle of $\triangle ABD$



Complete :

- 1) The number of axes of symmetry of the circle is
- 2) the number of axes of symmetry of semicircle is
- 3) The straight line which is perpendicular to any chord of the circle from its midpoint passes through
- 4) The two tangents to a circle at the two endpoints of a diameter of it are
- 5) If the circle M \cap the circle N = {A} then two circles are
- 6) The number of circles passing through three non collinear points is
- 7) All circles which passes through the two points A , B their centres lies on



- 8) If ABC is right angled at B then the centre of its circumference is
- 9) The chord of a circle which are equal in length arefrom the centre .
- 10) The circle which passes through the vertices of triangle is called
- 11) If $AB = 7$ cm , then the area of the smallest circle which passes through the two points A , $B =$ cm .

Model Answers

(1)

From 1 to 7 Try by yourself

(2)

From 1 to 14 Try by yourself

Complete

1) infinite number

2) 1

3) center of the circle

4) parallel

5) touching externally

6) 1

7) axes of \overline{AB}

8) midpoint of \overline{AC}

9) equidistance

10) circumcircle

11) 38.5 cm^2