Provincial department of Education,
Sabaragamuwa, week School

Subject- Mathematics

5th week

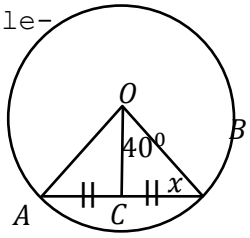
Grade-10

Translated by, Mr. N.M.D.T.H Bandara

Chords of a circle

- **The straight line joining the center of the circle to the mid point of a chord is perendicular to the chord.**
- **The perpendicular drawn from the center of a circle to chord bisect the chord.**

Example-

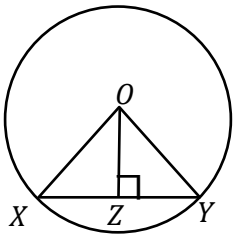
1. 

c *is the mid point of the chord of the circle with the center o*
if $C\hat{O}B = 40^0$ find the value of $O\hat{B}C$

$O\hat{C}B = 90^0$

$\therefore O\hat{B}C = 90^0 - 40^0$

$O\hat{B}C = 50^0$

2. 

oz is the perpndicular drawn to chord xy of the circle with the cnter o.
If $XY = 12cm, OZ = 8cm$. Find the value of the radius of the circle.

Applying Pythagoras theorem to the triangle oyz

$OY^2 = OZ^2 + ZY^2$

$OY^2 = 8^2 + 6^2$

$OY^2 = 64 + 36$

$OY^2 = 100$

$OY = 10cm$

Solve these.

1. O is the center of the circle and R is the mid point of the chord PQ. If $O\hat{P}R = 35^{0.}$ *find the value of* $P\hat{O}R$.
2. O is the center of the circle and N is the mid point of the chord LM. if $N\hat{O}M = 45^0$ show that ONM is an isosceles triangle.
3. C *is the center of the circle*. Perpendicular drawn from the center meets the chord AB at D. if AB =$24cm$, $CD = 5cm$. Find the value of the radius.
4. AB, BC, CA *are same chords*. The length of the perpendicular drawn from the center to AB chord is $6cm.$ *if t the radius is* $10cm.$ *find the peremeter*.