

Name: _____ () Class: _____ Date: _____

Lesson Worksheet 10.2A(II+)

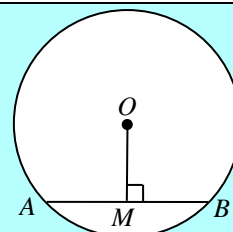
Objective: To solve questions using the properties 'line from centre \perp chord bisects chord' and 'line joining centre to mid-pt. of chord \perp chord'.

In this worksheet, unless otherwise stated, the centre of a circle is denoted by O .

The perpendicular from the centre of a circle to a chord bisects the chord.

i.e. If $OM \perp AB$, then $AM = BM$.

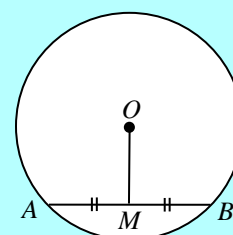
[Reference: *line from centre \perp chord bisects chord*]



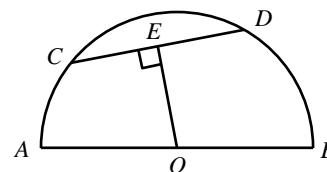
The straight line joining the centre of a circle and the mid-point of a chord (which is not a diameter) is perpendicular to the chord.

i.e. If $AM = BM$, then $OM \perp AB$.

[Reference: *line joining centre to mid-pt. of chord \perp chord*]

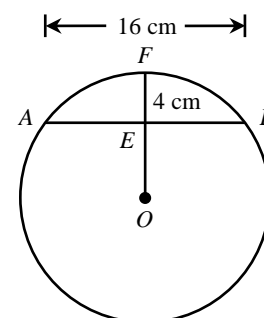


1. In the figure, $ABCD$ is a semi-circle. E is a point on CD such that $OE \perp CD$. If $AB = 12.5$ cm and $OE = 5$ cm, find CD .



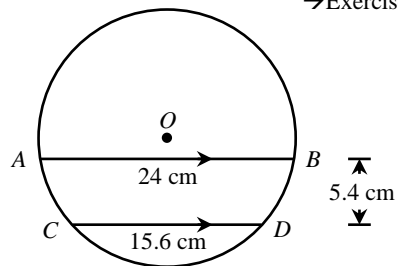
2. In the figure, AB and OF intersect at E such that E is the mid-point of AB . $AB = 16$ cm and $EF = 4$ cm. Find the radius of the circle.

→Exercise 10.2: 22

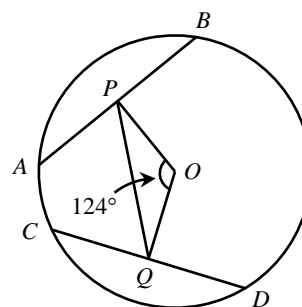


3. In the figure, $AB \parallel CD$. $AB = 24$ cm and $CD = 15.6$ cm. The distance between AB and CD is 5.4 cm. Find the radius of the circle.

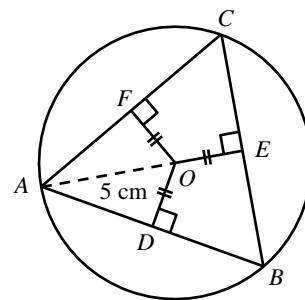
→Exercise 10.2: 21



4. In the figure, APB and CQD are straight lines. $AP = BP = CQ = DQ$. If $\angle POQ = 124^\circ$, find $\angle OPQ$.



5. In the figure, D , E and F are points on AB , BC and AC respectively such that $OD = OE = OF$. $OD \perp AB$, $OE \perp BC$ and $OF \perp AC$. If $OA = 5$ cm, find the perimeter of $\triangle ABC$. (Leave the answer in surd form.)



Try More

6. In the figure, E is the mid-point of AC . F is a point on CD such that $CF = DF = 10$ cm. If the circumference of the circle is 25π cm and $\angle ABC = 90^\circ$, find the area of $\triangle CEF$.

