Student No.:	Date: / /	Score: /16
Student Name:		

Revision of More about Basic Properties of Circles (I)

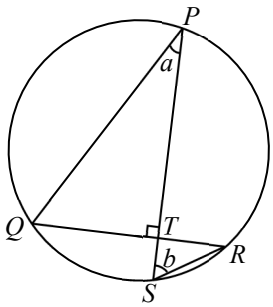
Exercises

(In this exercise, O is the centre of the circle, unless otherwise stated.)

1. In the figure, chord PS and QR are perpendicular to each other and intersect at T.

(a) Find $a+b$.

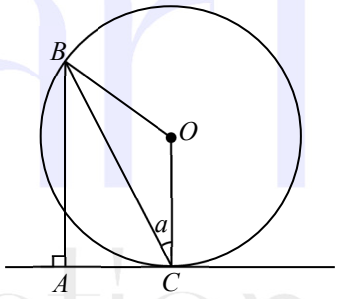
(b) If $b=4a$, find a and b.



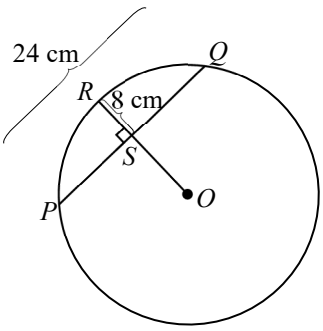
2. In the figure, chord BC is the angle bisector of $\angle ABO$. $AB \perp AC$ and $\angle OCB = a$.

(a) Find $\angle OBC$ and $\angle ACB$ in terms of a.

(b) Is AC a tangent to the circle? Explain briefly.



3. In the figure, PQ and OR intersect perpendicularly at S. If $PQ = 24$ cm and $RS = 8$ cm, find the radius of the circle.



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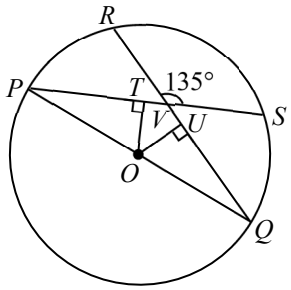
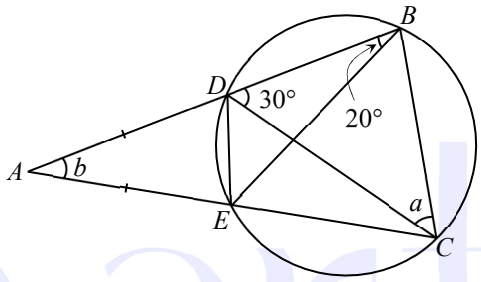
4. In the figure, POQ is a diameter of the circle. $PS = QR$, $OT \perp PS$, $OU \perp QR$ and $\angle RVS = 135°$.

(a) Prove that $\Delta OPT \cong \Delta OQU$.

(b) Find $\angle QPS$.



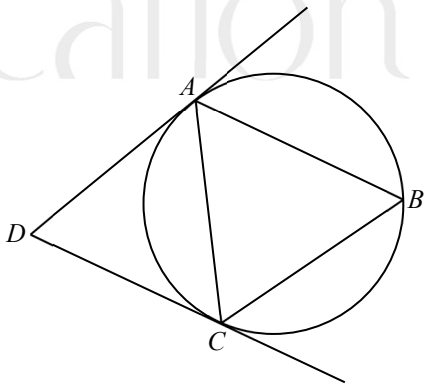
5. In the figure, $AD = AE$, ADB and AEC are straight lines. Given that $\angle DBE = 20°$ and $\angle BDC = 30°$, find a and b.



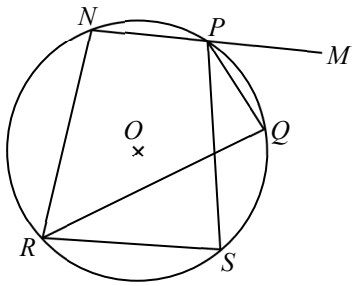
6. In the figure, AD and CD are tangents to the circle. If $\overset{\frown}{AB} : \overset{\frown}{BC} : \overset{\frown}{AC} = 4 : 5 : 3$, find

(a) $\angle ABC$.

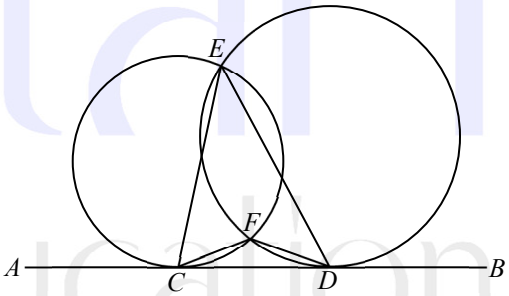
(b) $\angle ADC$.



7. $PNRS$ is a cyclic quadrilateral. MPN is a straight line and RQ bisects $\angle NRS$. Prove that PQ bisects $\angle MPS$.



8. In the figure, $ACDB$ is a common tangent of the two circles. E and F are two intersections of the two circles. Show that $\angle CFD + \angle CED = 180°$.



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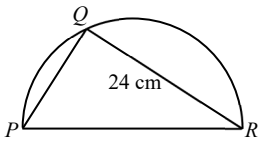
M.C.

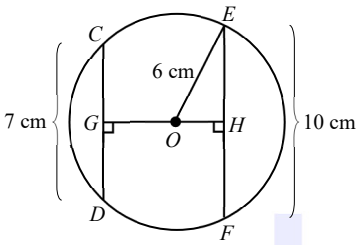
1. In the figure, PQR is a semi-circle. $PQ : PR = 3 : 5$. Find PR, correct to the nearest 0.1 cm.

A. 6 cm
B. 12.3 cm
C. 20.3 cm
D. 30 cm



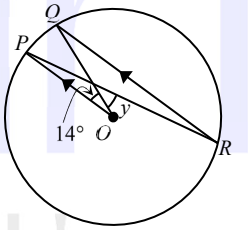
2. In the figure, CGD. EHF and GOH are straight lines. Given that $\angle DGH = \angle GHF = 90°$, $CD = 7$ cm, $EF = 10$ cm and $OE = 6$ cm, find GH, correct to 2 decimal places.

A. 5.89 cm
B. 6.63 cm
C. 8.19cm
D. 9.32 cm



3. In the figure, OP // RQ and $\angle POQ = 14°$. Find y.

A. 14°
B. 21°
C. 28°
D. 42°



4. In the figure, if $\overset{\frown}{ABC} = 96$ cm and $\angle AOC = 120°$, find $\overset{\frown}{AC}$.

A. 32 cm
B. 48 cm
C. 64 cm
D. 80 cm