

Tender Heart High School, sector-33B, Chd.

Class: 10th

Subject: Mathematics

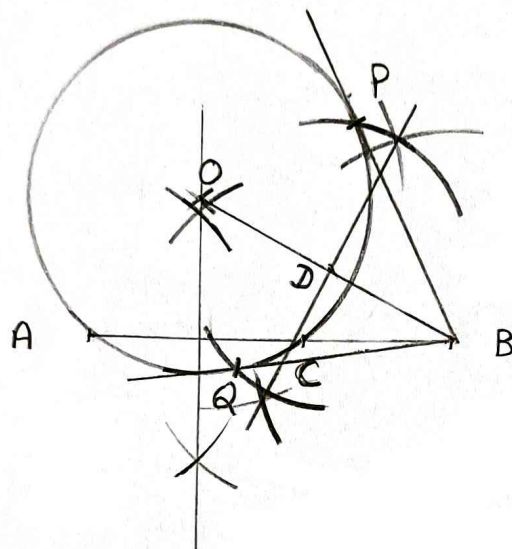
Date: 9-12-2024

Teacher: Ms. Reena

Topic : Constructions

Exercise 20(A)

Ques1



Radius = 2.5cm

Tangents are

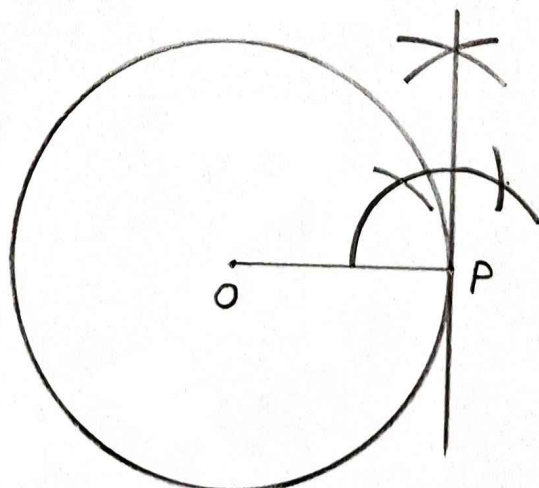
PB = QB = 3.2cm
(approx)

Important steps

- 1) Draw $\perp$ of AC
- 2) From point A, draw an arc of 2.5cm on perpendicular and similarly from point C.
- 3) Taking OA or OC as radius = 2.5cm, draw an circle
- 4) Join OB, and draw its perpendicular bisector
- 5) Taking OD = DB = radius, draw arcs on circle i.e. P and Q
- 6) Join BP and BQ

Ques2

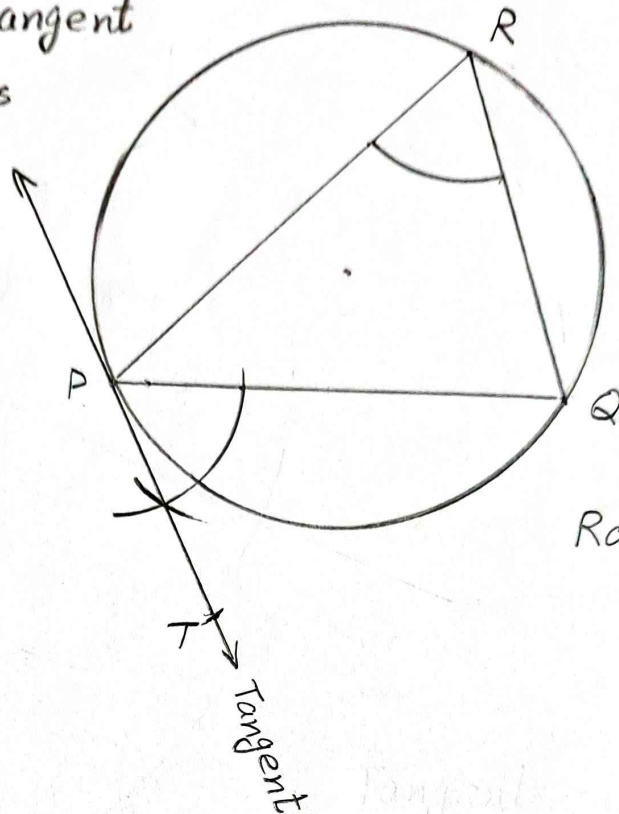
To draw tangent to a circle when centre of circle is known



Ques 3 To draw a tangent when centre of circle is unknown.

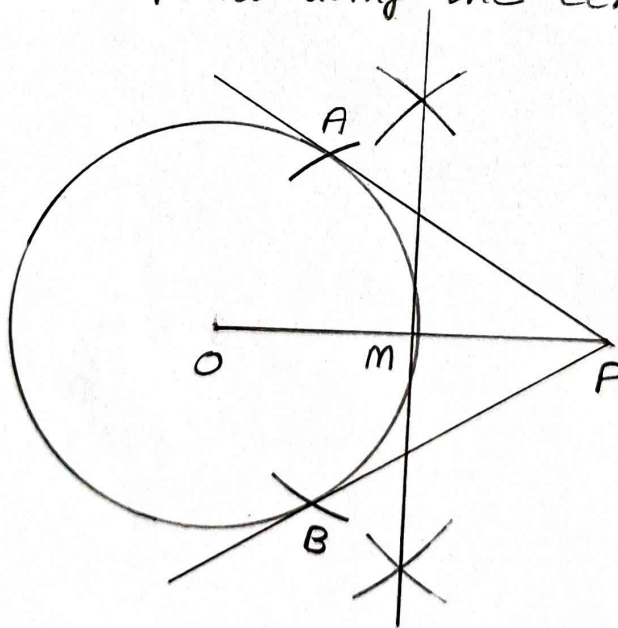
By Alternate segment

Draw $\angle PRQ = \angle QPT$



Radius = 3.4 cm

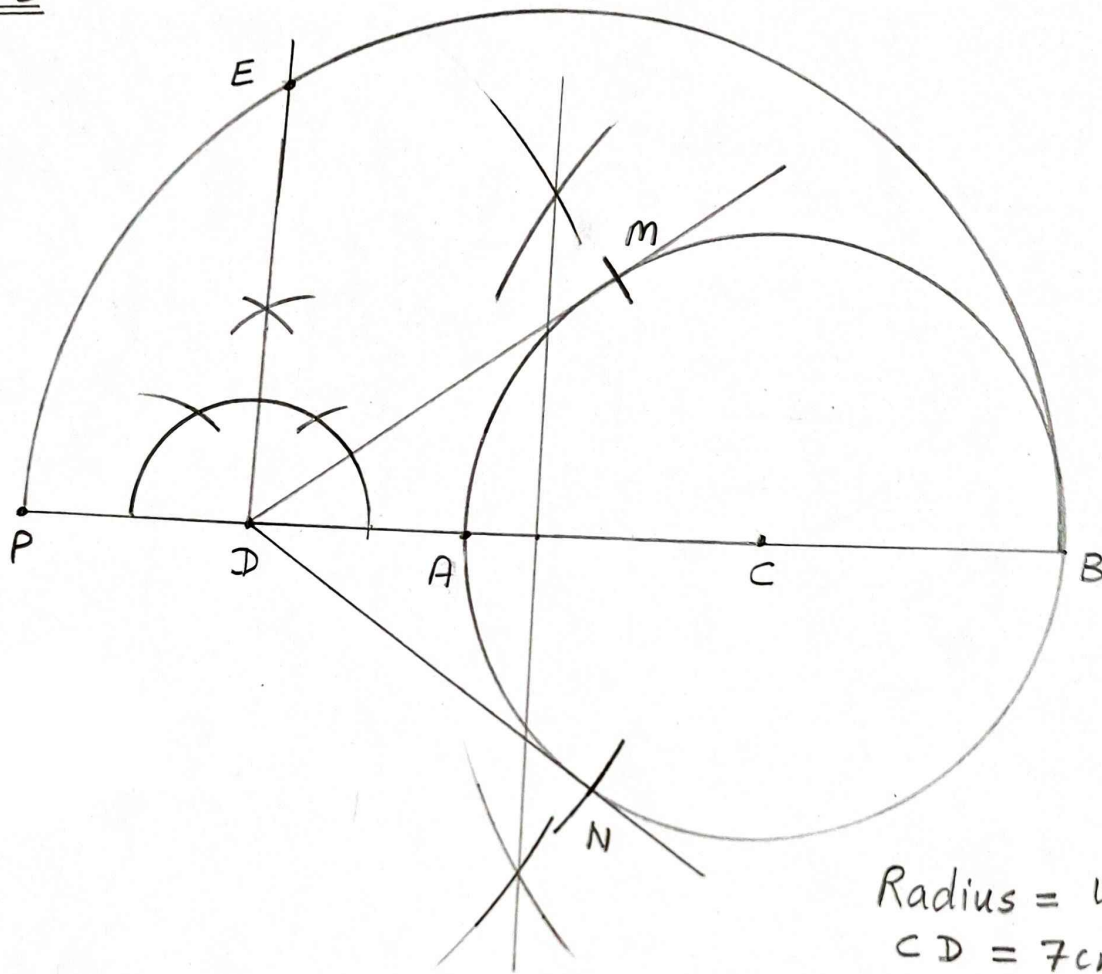
Ques 4 To draw two tangents to a Circle from an external point using the centre of the circle.



Radius = 2.7 cm

$PA = PB = 4.6$ cm
(approx)

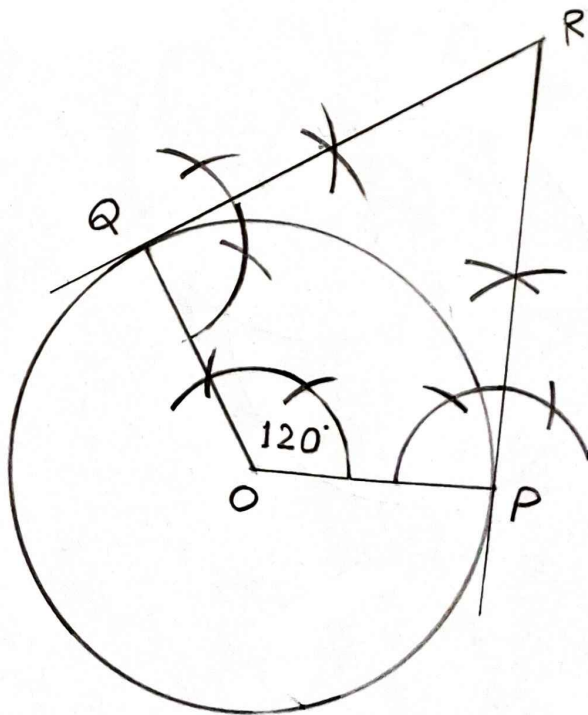
Ques 5 Two draw two tangents without using centre of the circle.



Radius = 4cm
CD = 7cm

Tangents are DM and DN $[DE = DM = DN]$

Ques 6



Radius = 3.2 cm

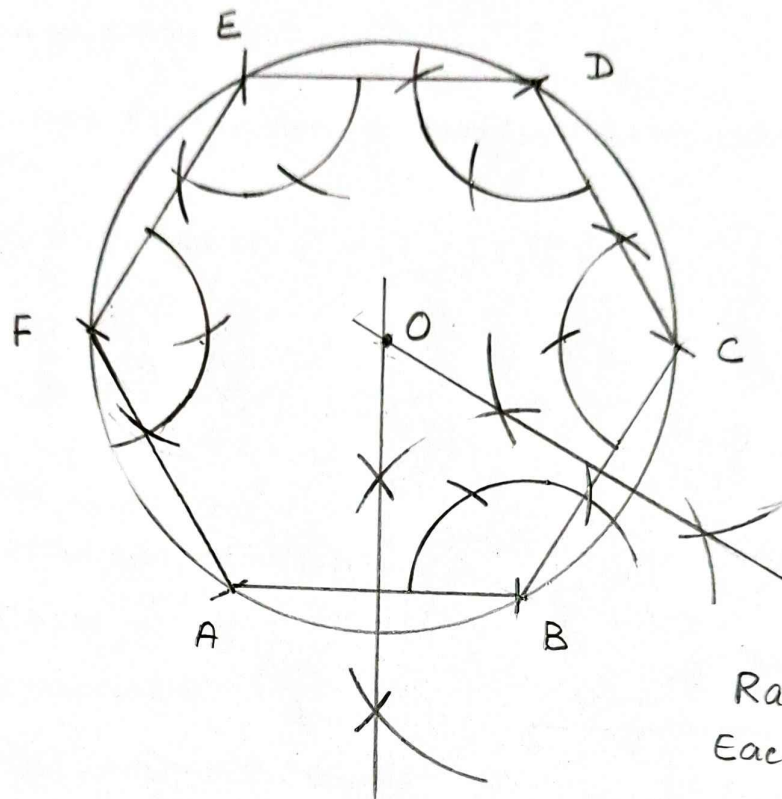
$$\angle ORP = 180^\circ - 120^\circ = 60^\circ$$

$[\because \text{sum of angles of a quad. is } 360^\circ]$

$$90^\circ + 90^\circ + 120^\circ + \angle ORP = 360^\circ$$

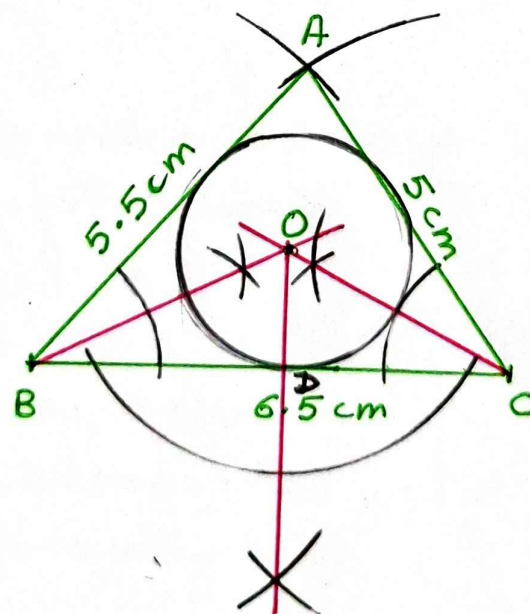
Exercise - 20(B)

Ques 1: To construct a circle circumscribing the hexagon



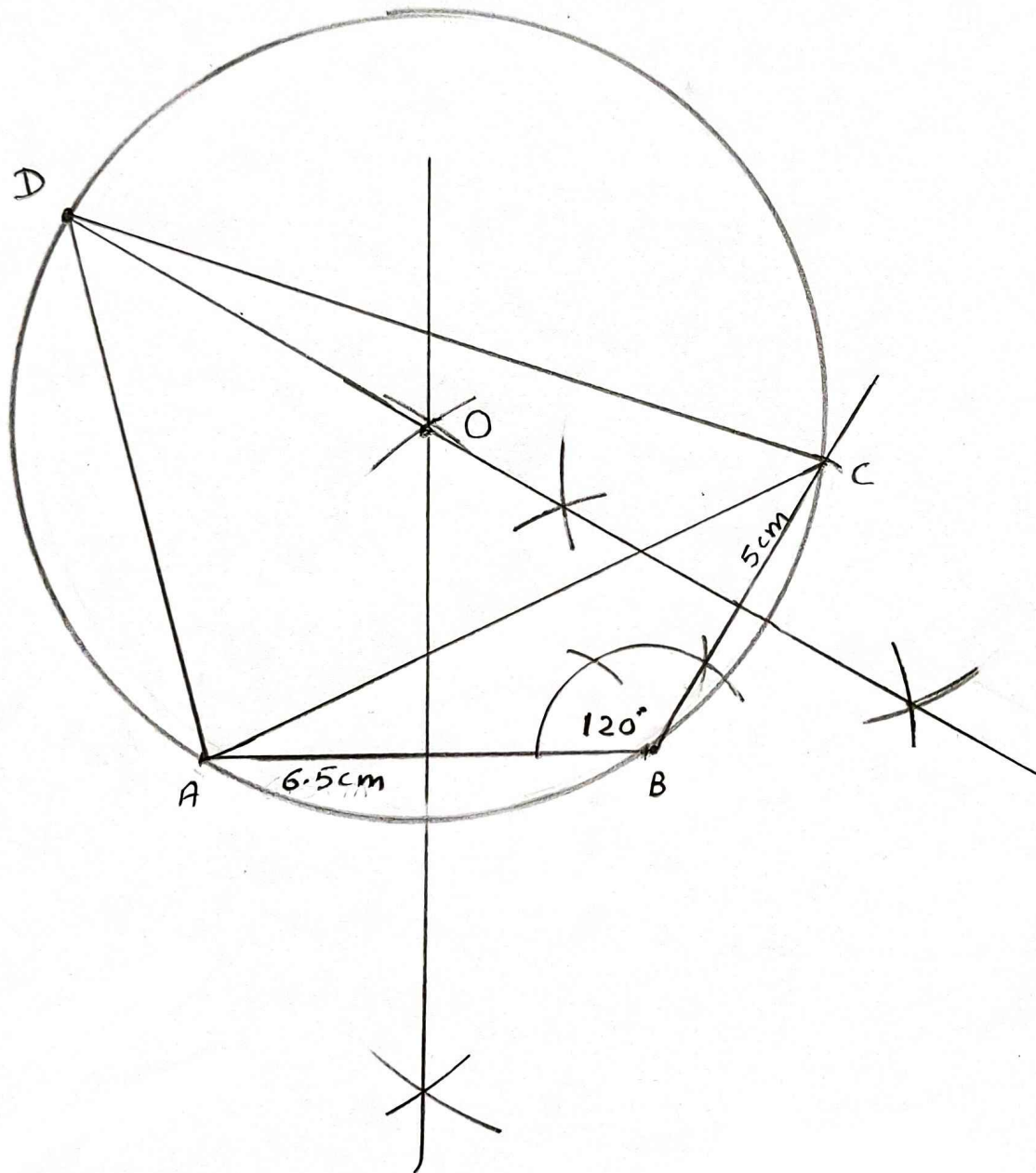
Radius = 4 cm
Each angle = 120°

Ques 3: To construct the incircle of a triangle.
(Draw angle bisectors of any two angles)

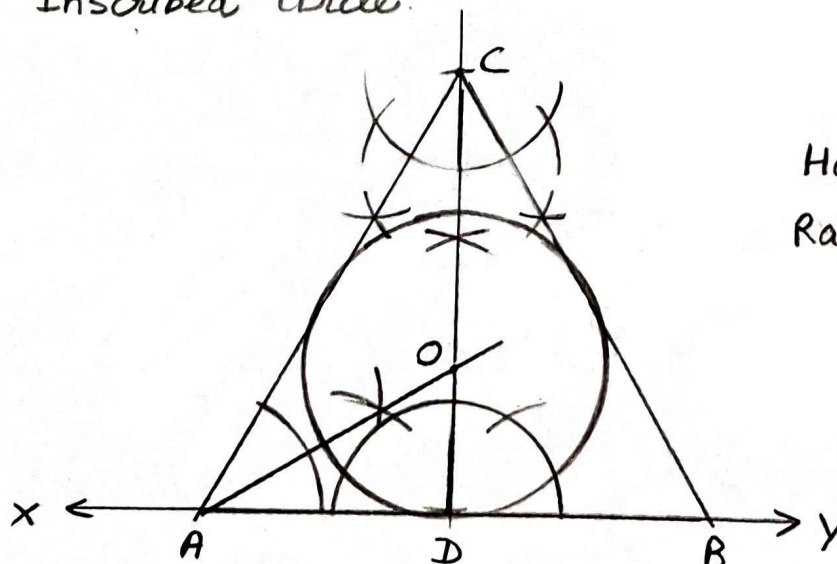


OD = radius
= 1.6 cm
(approx)

Ques. 4 Construct a circle circumscribing $\triangle ABC$

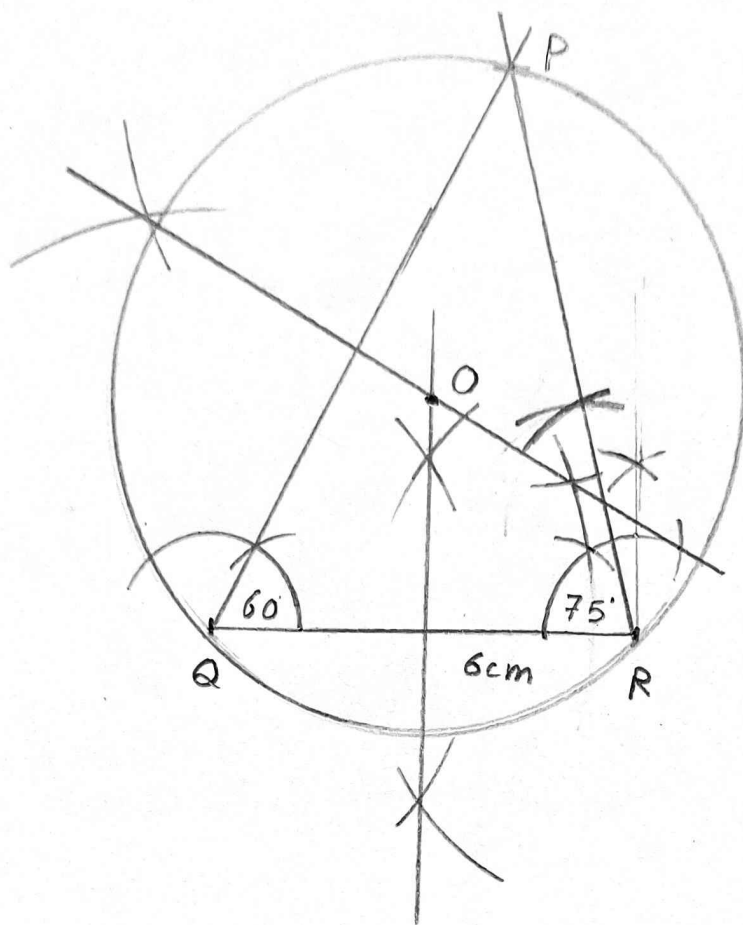


Ques 6 Inscribed circle.



Height = 4 cm
Radius = 2 cm (approx)

Ques 11 Given, $QR = 6\text{ cm}$, $\angle Q = 60^\circ$, $\angle R = 75^\circ$



Ques 14 Given, $BC = 6\text{ cm}$, $\angle B = 45^\circ$, $AB - AC = 1.5\text{ cm}$
Draw the circumcircle of the triangle.

