



Sahi Prep Hai Toh Life Set Hai

DOUBT SESSION

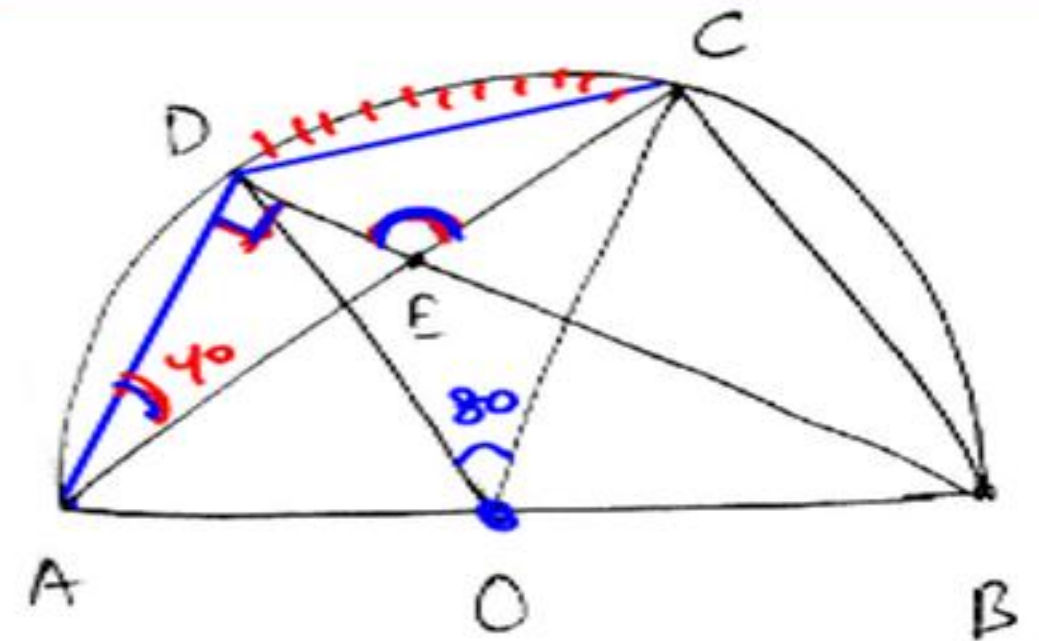
INSTRUCTIONS FOR ATTACHING DOUBTS FOR FURTHER DOUBT SESSION

- ✓ If a doubt is not attached properly, it will not be taken in the class.
- ✓ None of the question which is discussed in class will be taken in doubt session, if you haven't revised the class.
- ✓ Without options and without mentioning which option is correct, no doubts will be entertained.
- ✓ Maximum numbers of doubts, a student can ask in doubt session is 5.
- ✓ Please send all your doubts at least 24 hours before Doubt Class.

Q23. AB is diameter

$\angle DOC = 80^\circ$ (O is centre of circle)

Find $\angle DEC$.



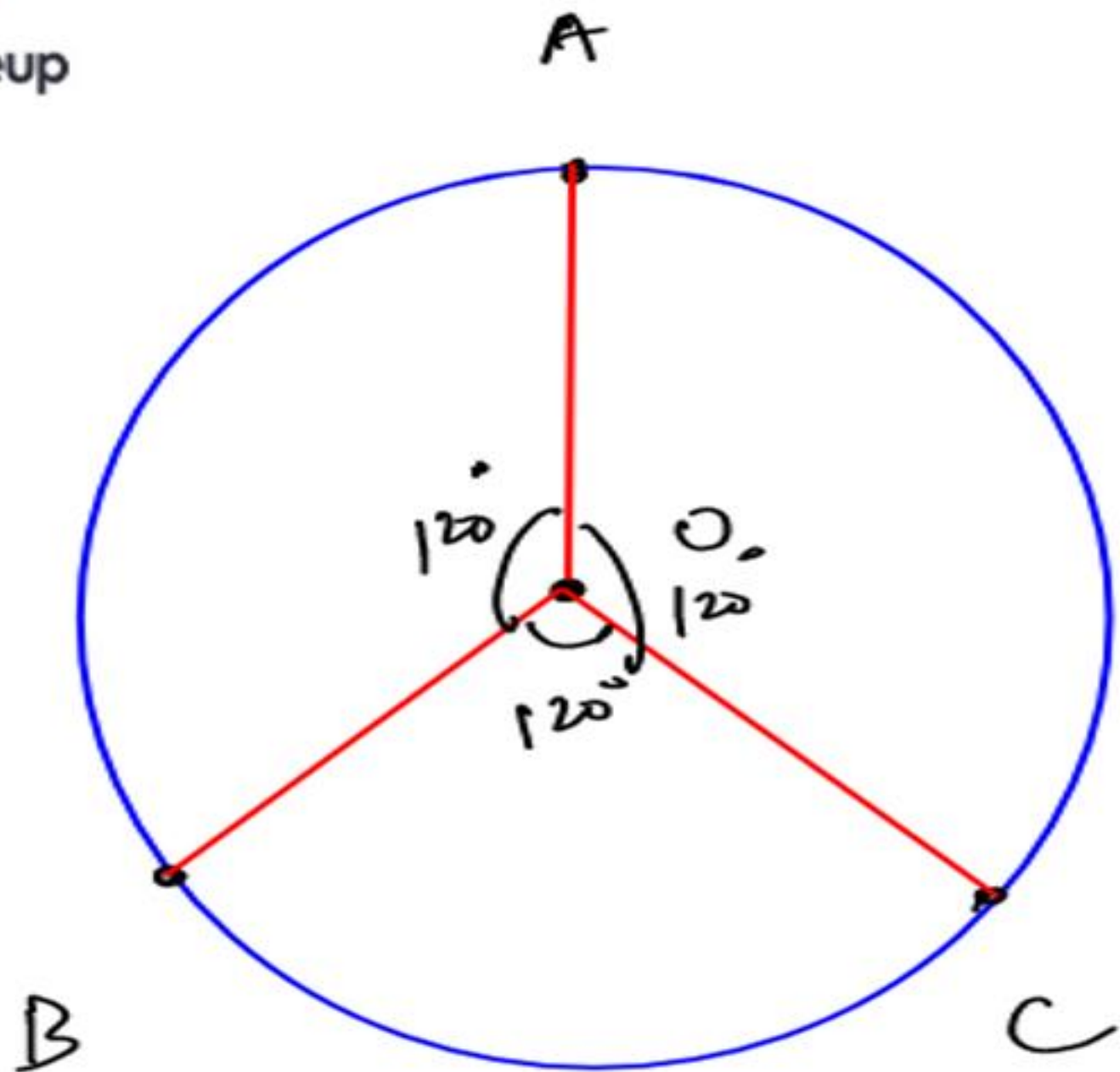
$$\angle ADB = 90^\circ \quad \left(\begin{array}{l} \text{Angle in a} \\ \text{semi-circle} \end{array} \right)$$

$$\angle DAC = 40^\circ$$

$$\angle DEC = 90 + 40$$

$$= 130^\circ \quad \checkmark \checkmark$$

Ans. 130°

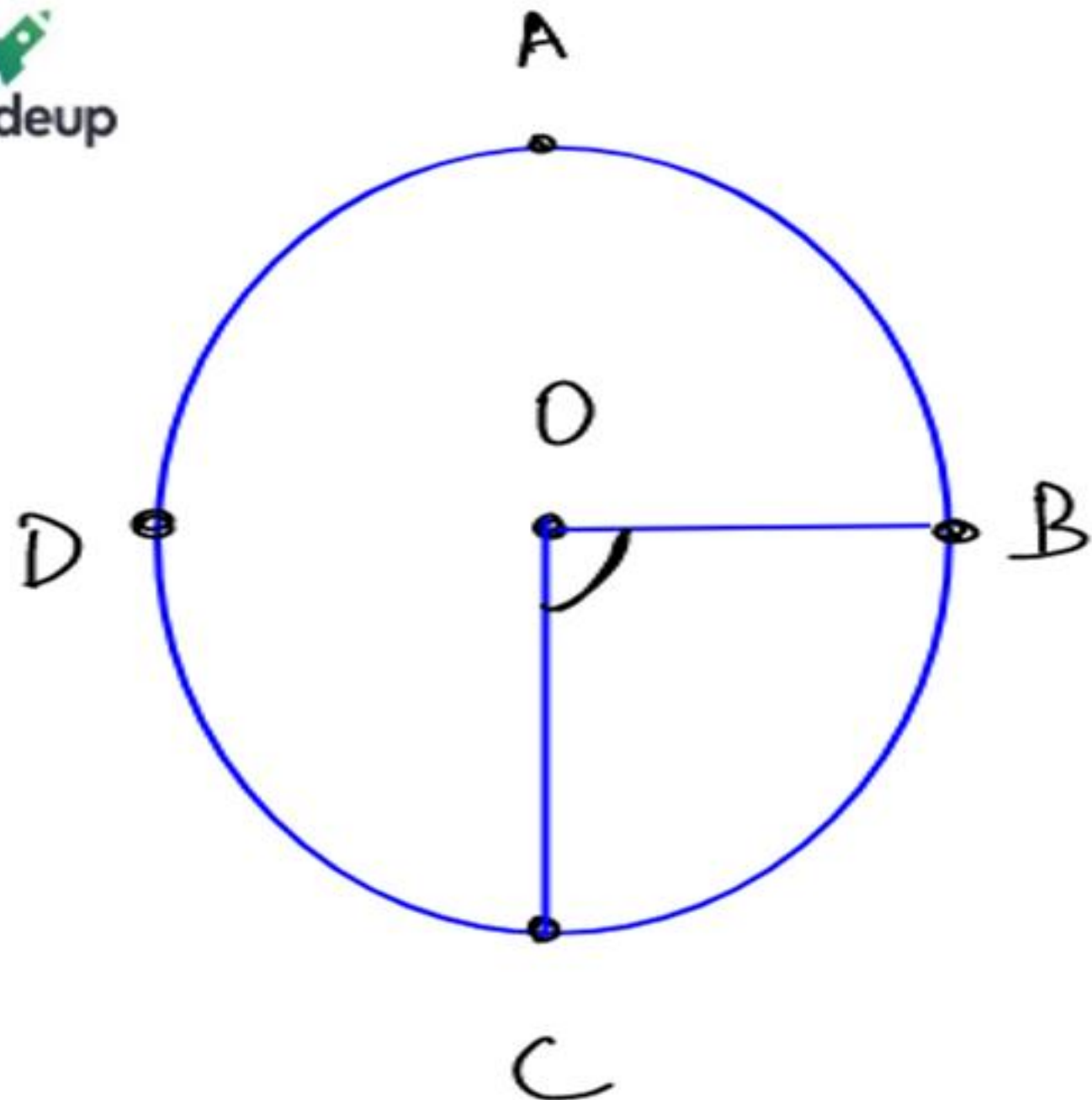


$$\widehat{AB} = \widehat{BC} = \widehat{CA}$$

$$\rightarrow 360^\circ$$

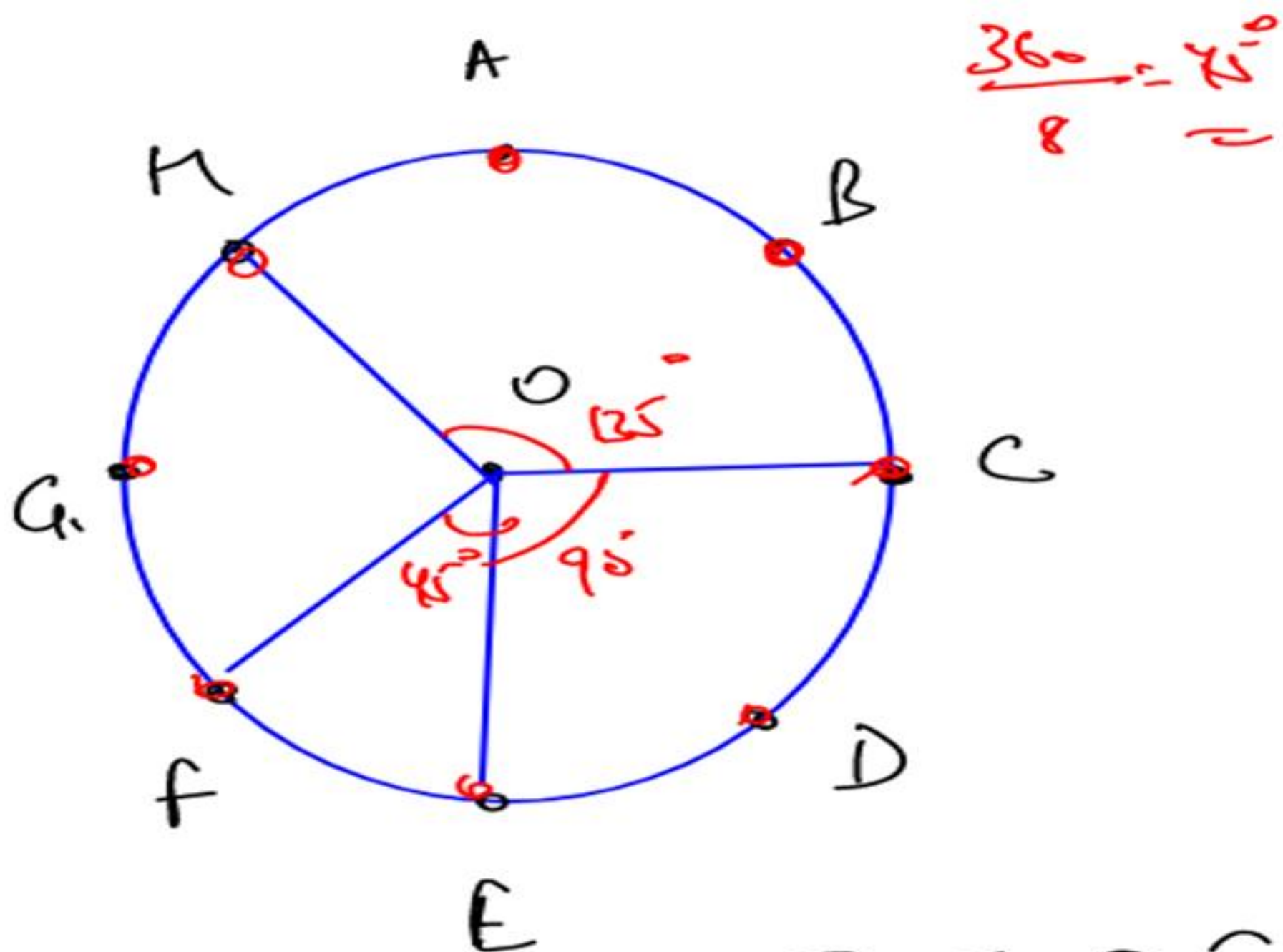
$$\frac{360}{3} = 120^\circ$$

at the center



$$\widehat{AB} = \widehat{BC} = \widehat{CD} = \widehat{DA}$$

$$\angle BOC = 90^\circ$$



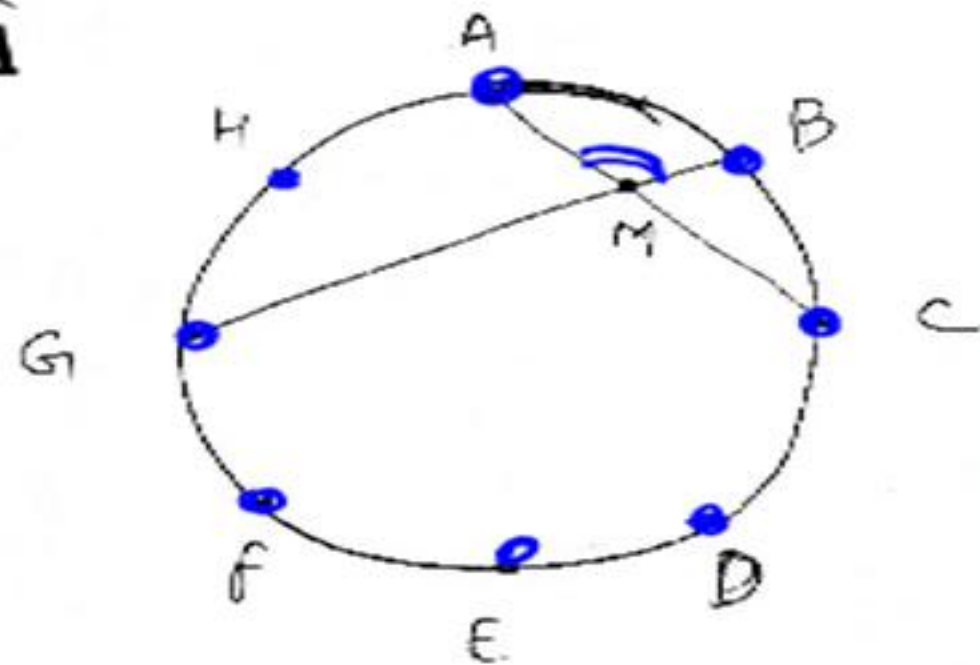
$$\widehat{AB} = \widehat{BC} = \widehat{CD} = \widehat{DE} = \widehat{EF} = \widehat{FG} = \widehat{HA}$$

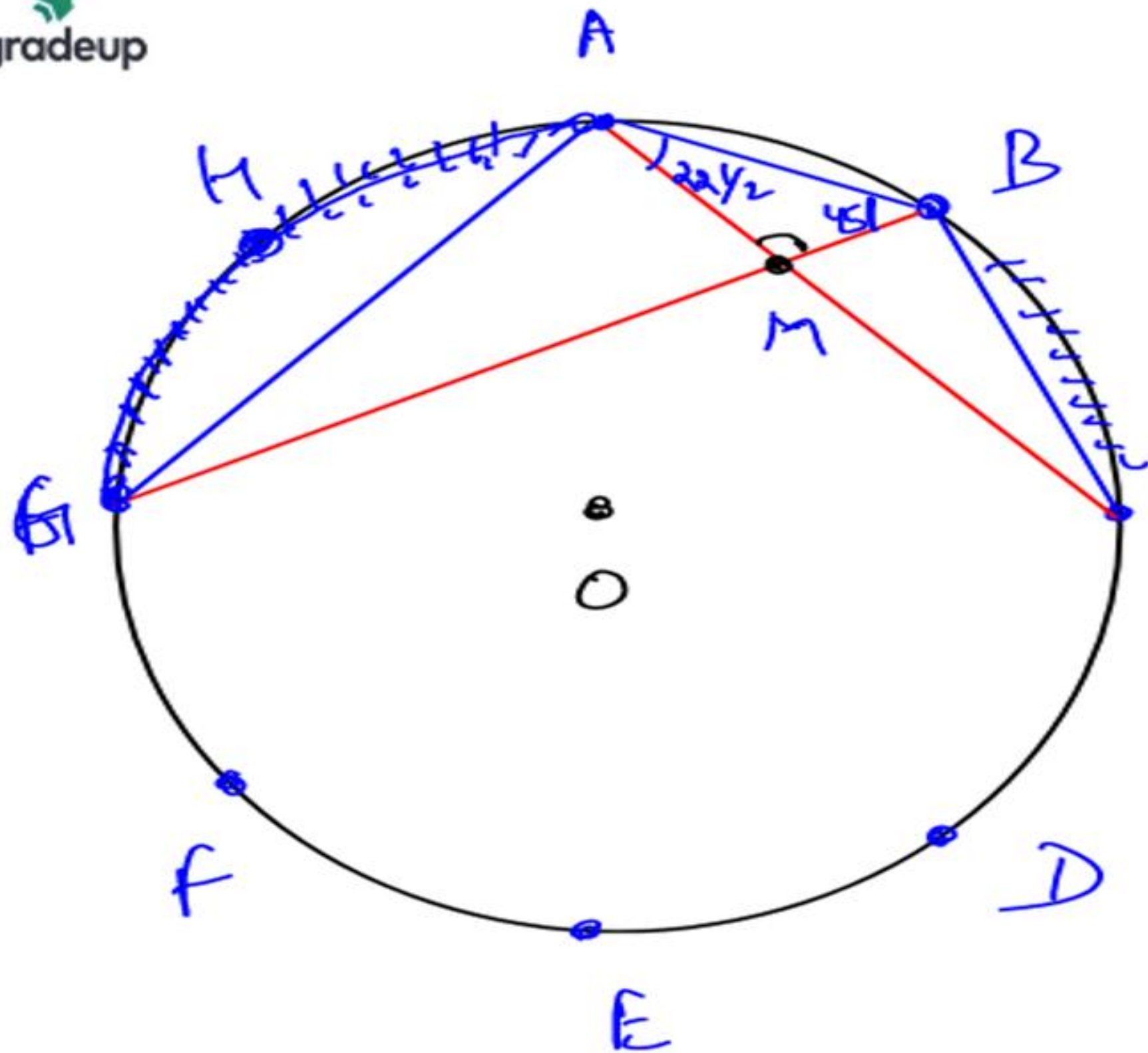
(i) $\angle FOE$ (ii) $\angle COE$ (iii) $\angle COH$

Q24. If $\widehat{AB} = \widehat{BC} = \widehat{CD} = \widehat{DE} = \widehat{EF} = \widehat{FG} = \widehat{GH} = \widehat{HA}$

Find $\angle AMB$.

$M \rightarrow$ not the centre





18

$$\frac{360}{8} = 45^\circ$$

$\triangle AMB$

$$45 + 22\frac{1}{2} + \angle AMB$$

$$= 180^\circ$$

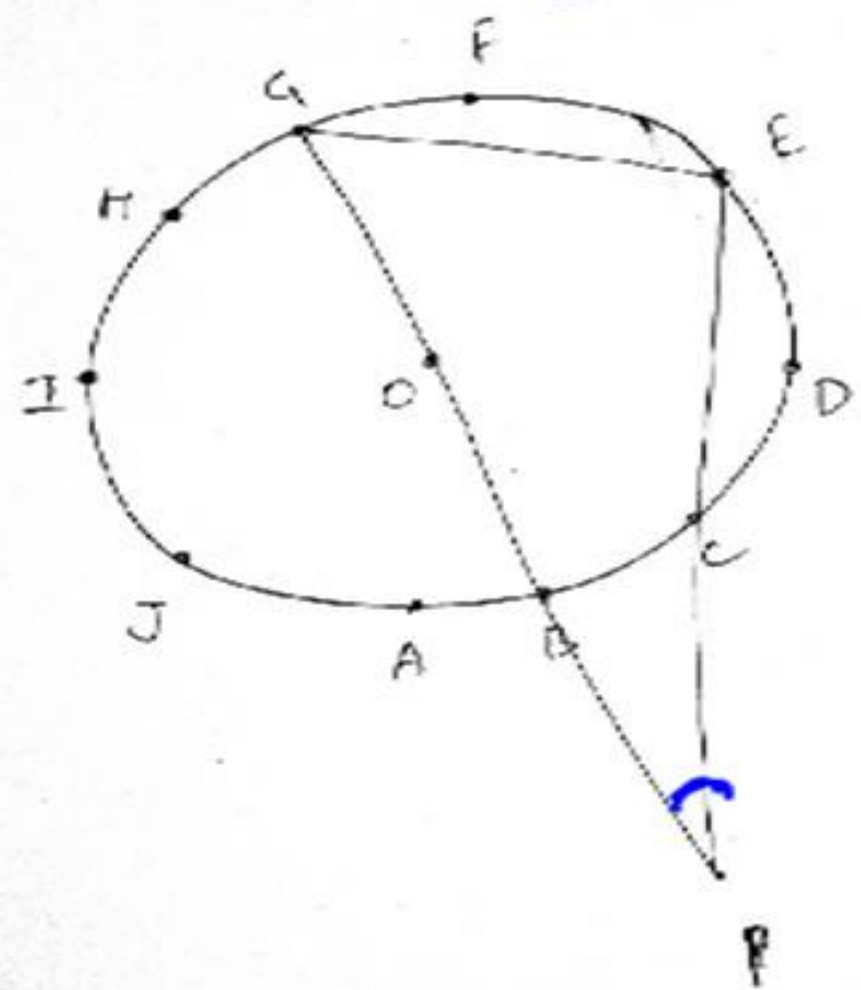
$$\angle AMB = \underline{\underline{112.5^\circ}}$$

Ans. 112.5°

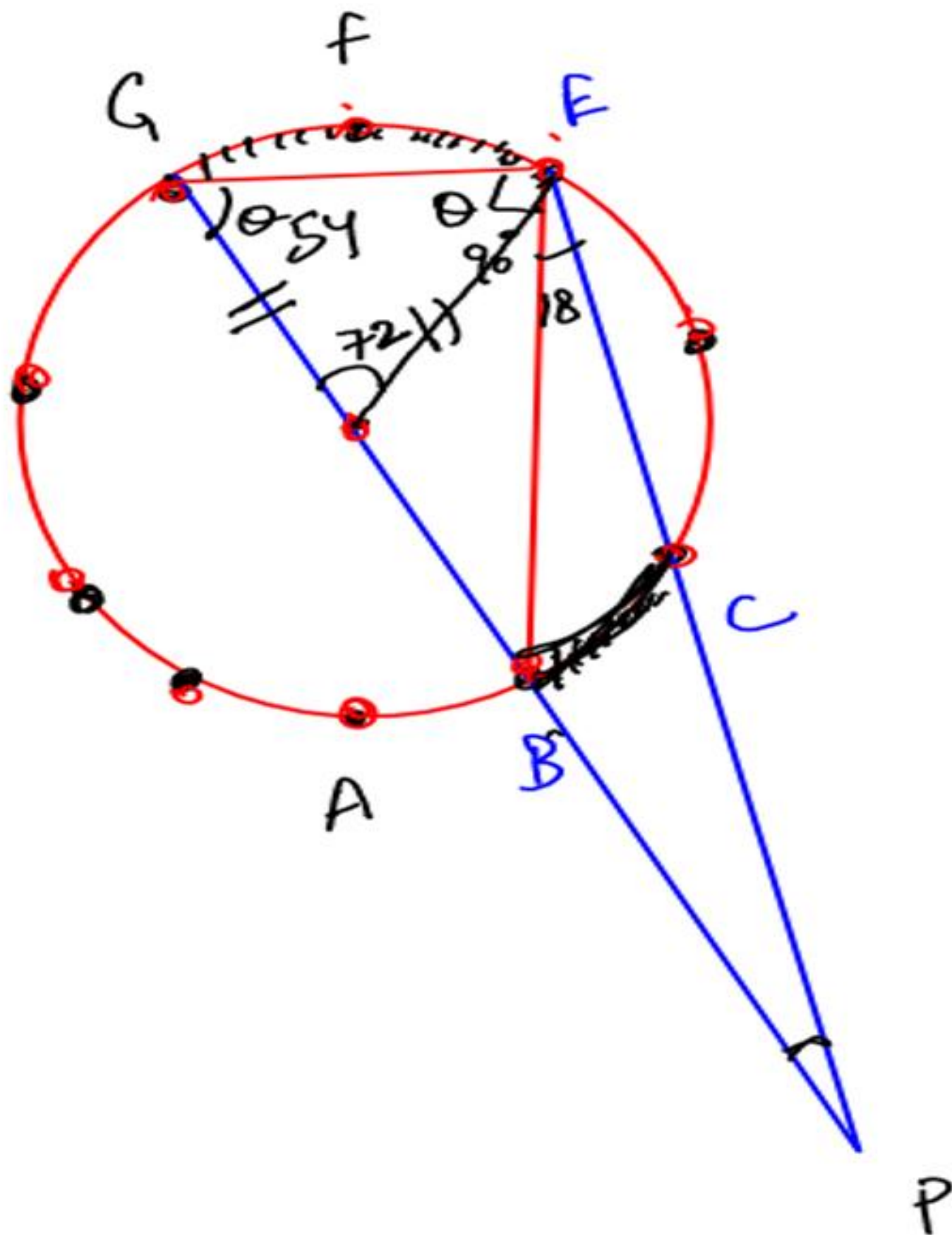
Q25. If $\widehat{AB} = \widehat{BC} = \widehat{CD} = \widehat{DE} = \widehat{EF} = \widehat{FG} = \widehat{GH} = \widehat{HI} = \widehat{IJ} = \widehat{JA}$

2 min

Find $\angle EPG$.



V. Imp



I

$$\frac{360}{10} \rightarrow 36^\circ$$

$$72 + 20 = 180$$

$$\theta = \underline{54^\circ}$$

$\triangle GEP$

$$54 + 108 + \angle EPQ = 180$$

$$\angle EPQ = \underline{18^\circ}$$

Ans. 18°

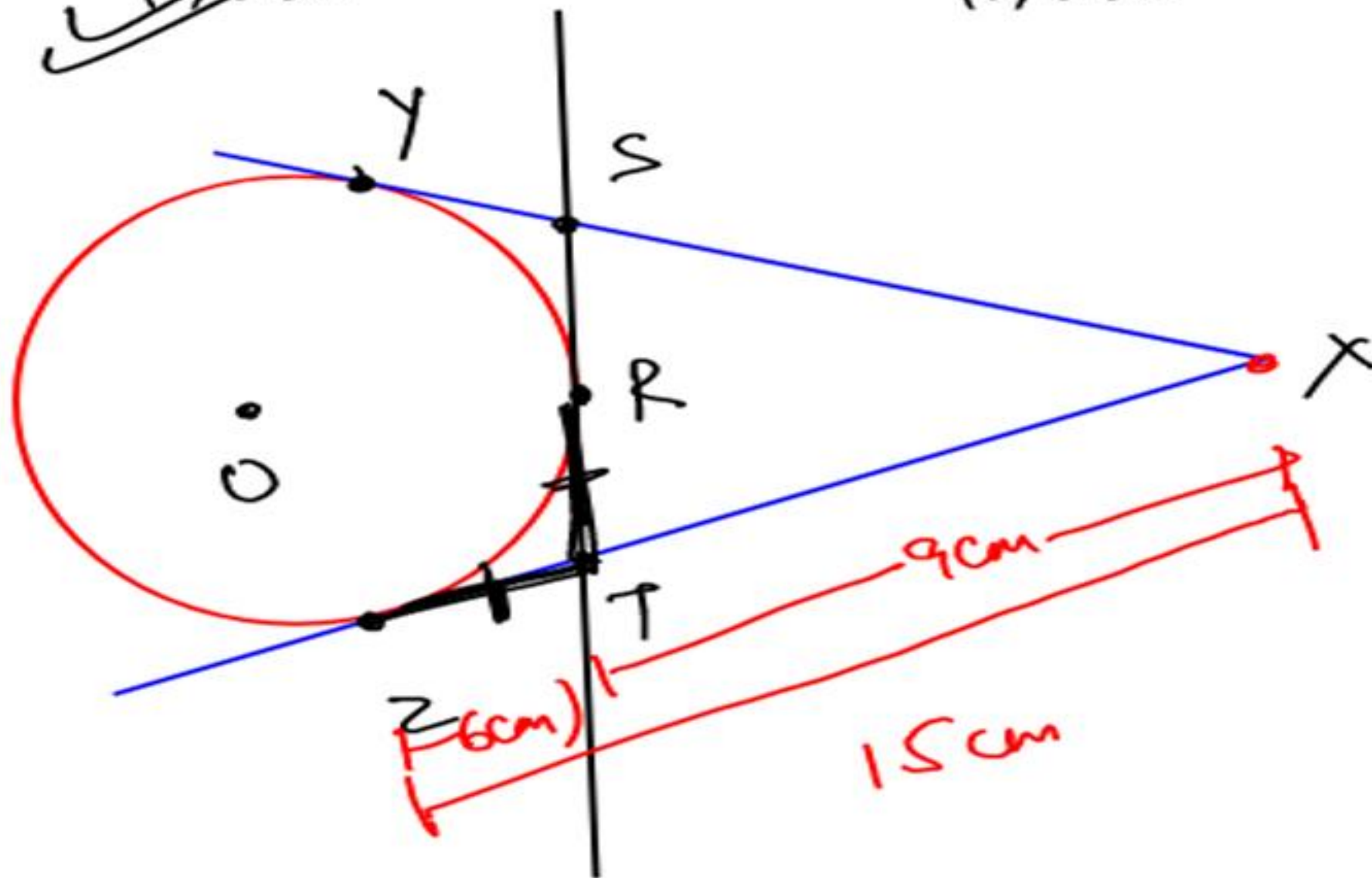
Q2. XY and XZ are tangent to a circle, ST is another tangent to the circle at the point R on the circle, which intersects XY and XZ at S and T respectively. If $XY = 15$ cm and $TX = 9$ cm, then RT is

(a) 4.5 cm

(b) 7.5 cm

(c) 6 cm

(d) 3 cm



$$XY = 15 \text{ cm} \quad RT = ??$$

$$TX = 9 \text{ cm}$$

$$XY = XZ = 15 \text{ cm}$$

$$\underline{\underline{TR = 6 \text{ cm}}}$$

Ans. (c)

Q3. Diameter AOB of a circle is extended such that it intersects extended chord CD at E outside the circle. If $\angle AOC = 50^\circ$, $\angle AEC = 15^\circ$. Find $\angle BOD$. (O is the centre of the circle)

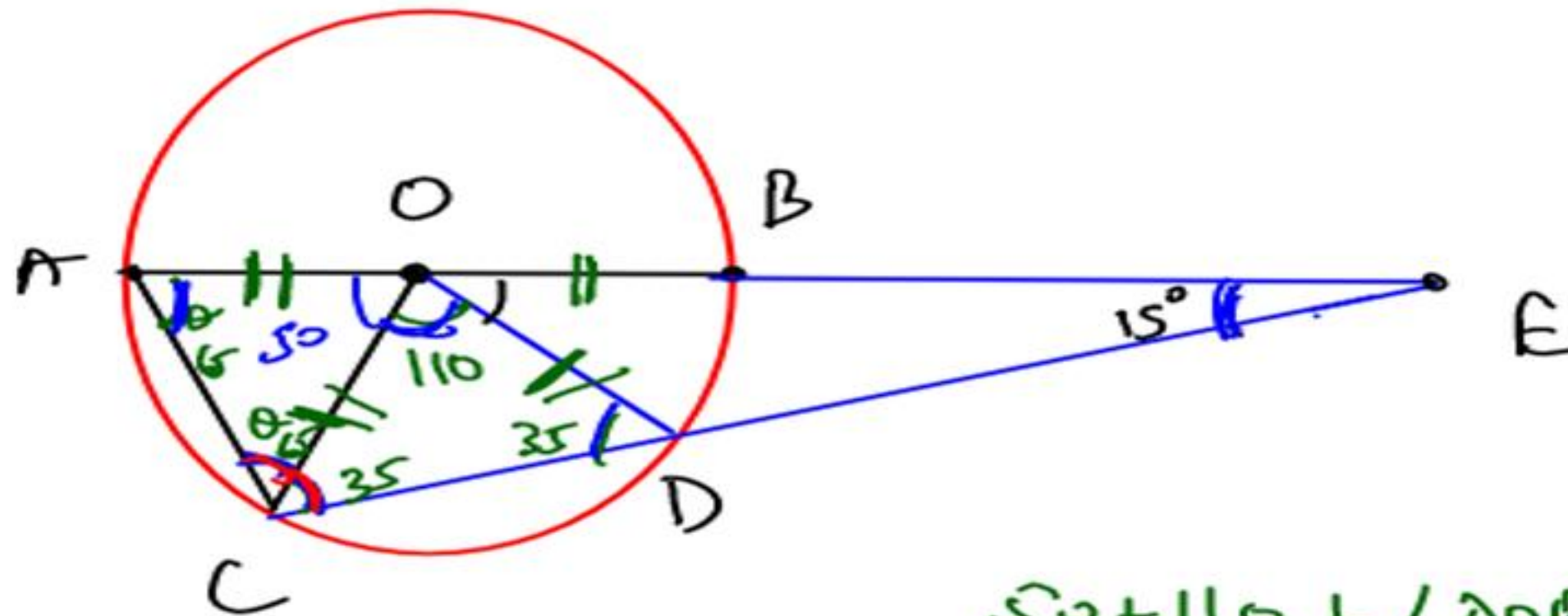
A. 10°

☒ B. 20°

C. 40°

D. 5°

75sec



$$50 + 2\theta = 180$$

$$\boxed{\theta = 65}$$

$$65 + 15 + \angle ACE = 180$$

$$50 + 110 + \angle DOB = 180 \quad \underline{\underline{\angle ACE = 10^\circ}}$$

$$\angle DOB = 20^\circ$$

Ans. (B)

Q20. Both circles are touching each other
~~there are two chords~~ AB and CD which
pass through point of contact P.

If $AP = 12$ cm, $PC = 4$ cm, $PD = 6$ cm

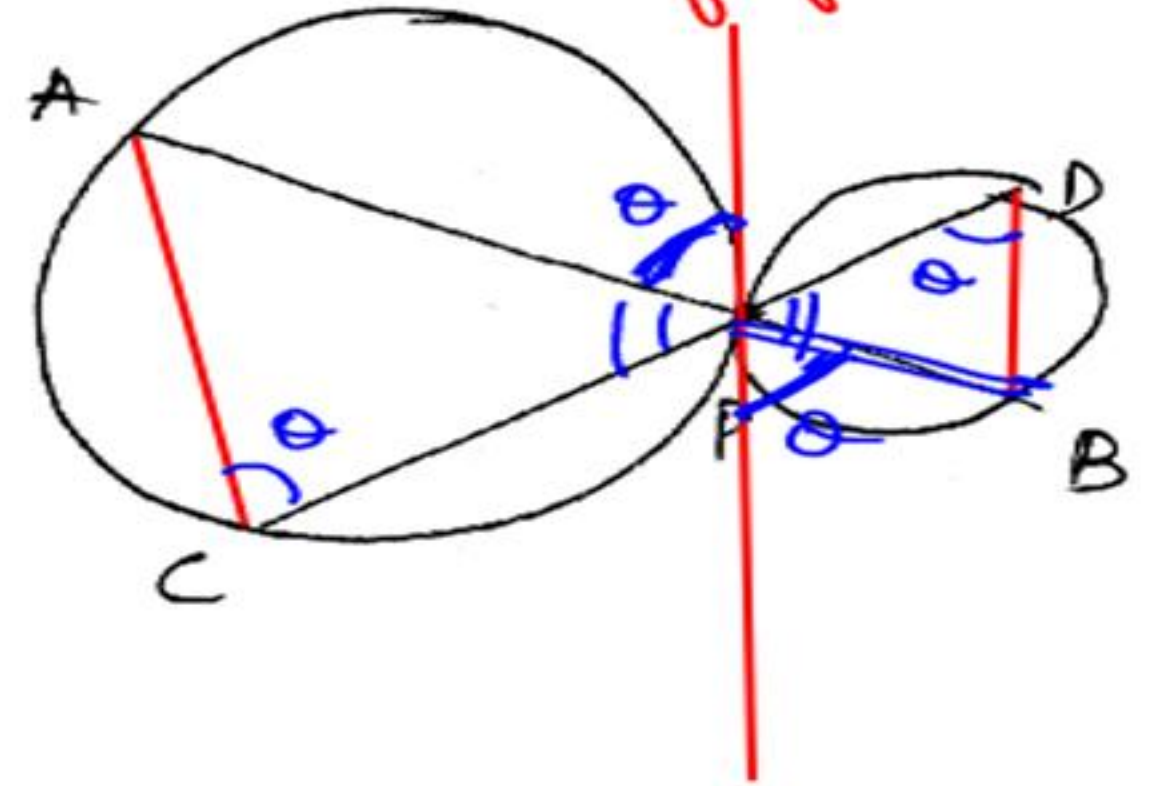
Find $PB = ??$

$$\triangle APC \sim \triangle BPD$$

$$\frac{12}{BP} = \frac{4}{6}$$

$$\underline{\underline{BP = 18}}$$

as shown in fig



Ans. PB = 18 cm

Q21. Both circles are touching internally.

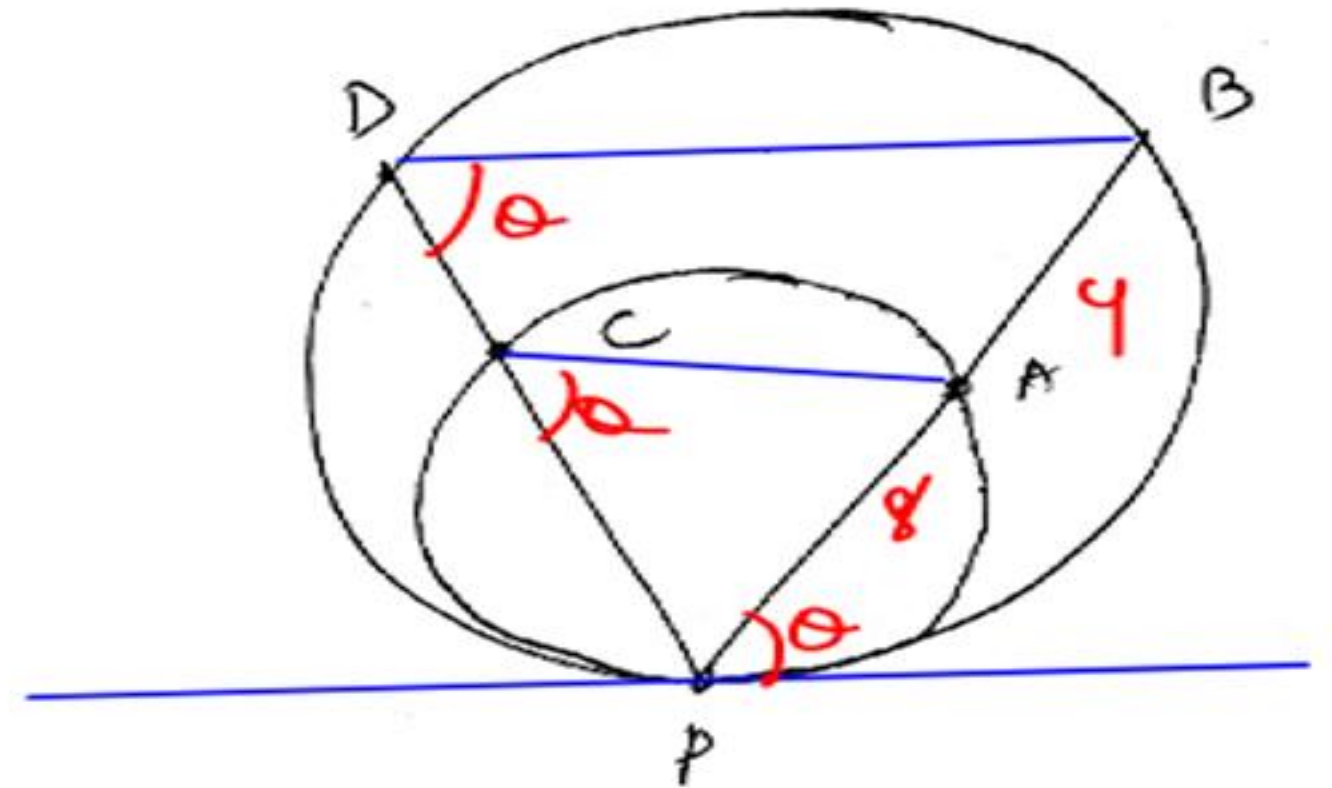
If $PA = 8$ cm, $AB = 4$ cm, $PC = 12$ cm

Find $CD = ??$

$$\triangle PCA \sim \triangle PDB$$

$$\frac{12}{PD} = \frac{8}{12}$$

$$PD = \underline{\underline{18 \text{ cm}}}$$



$$CD = PD - PC$$

$$= 18 - 12$$

$$\underline{\underline{6 \text{ cm}}}$$

Ans. $CD = 6$ cm

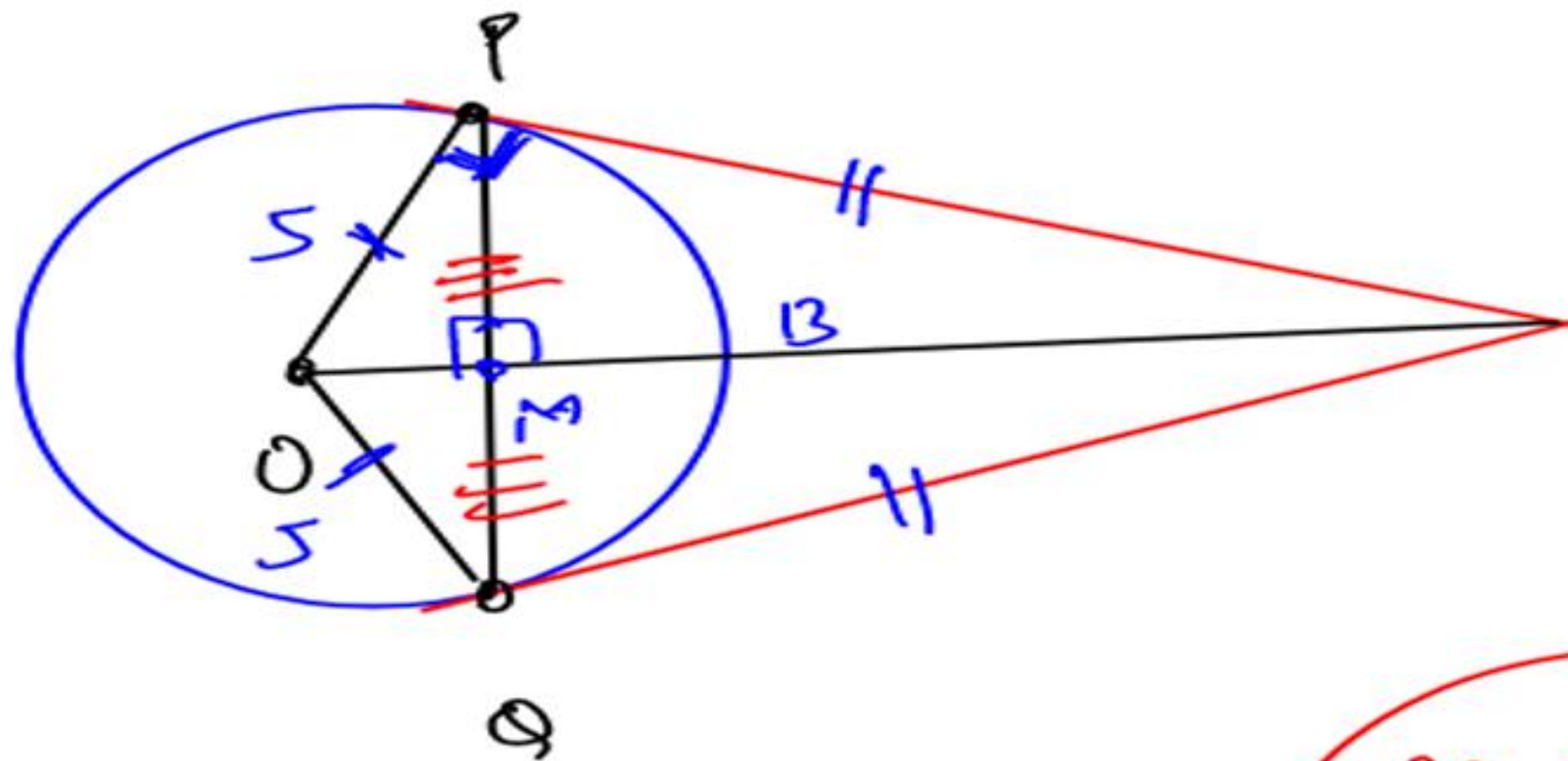
Q22. From an external point T, 13 cm away from the centre O of the circle of radius 5 cm, the two tangents PT and QT are drawn. What is the length of PQ?

(a) $\frac{19}{3}$ cm

(b) $\frac{40}{13}$ cm

(c) $\frac{22}{3}$ cm

(d) $\frac{120}{13}$ cm



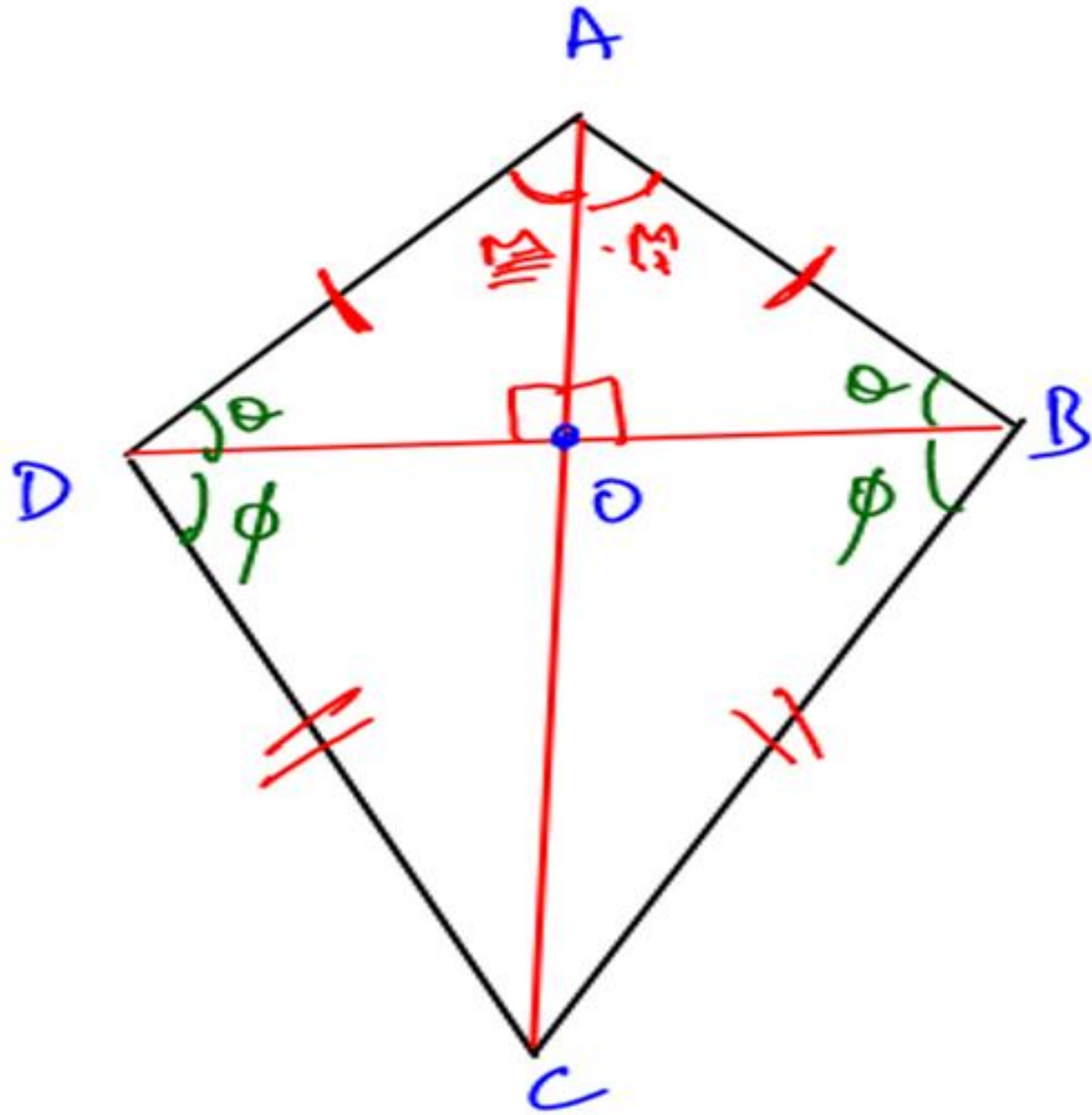
ΔPOT

$PT = 12$ cm

$5 \cdot 12 = 13 \cdot PM$

$PM = \frac{60}{13}$

$PQ = \frac{120}{13}$



To prove $\angle AOD = 90^\circ$

$$\triangle ADC \cong \triangle ABC$$

$$AD = AB$$

$$DC = BC$$

$$AC = AC$$

$$\triangle ADC \cong \triangle ABC$$

Ans. (d)

Q23. Two equal circles of radius 4 cm intersect each other such that each passes through the centre of the other. The length of the common chord is:

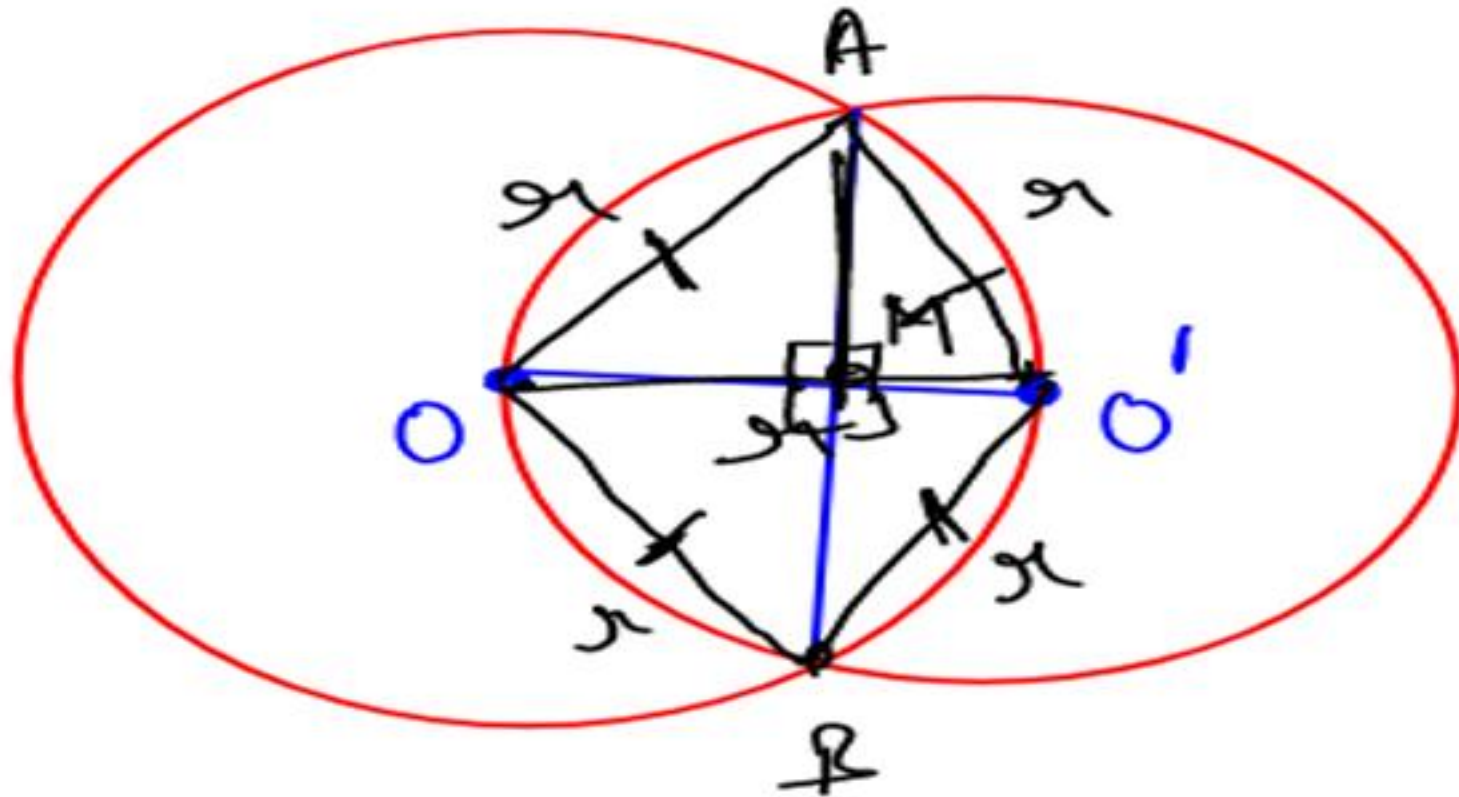
(a) $2\sqrt{3}$ cm

(c) $2\sqrt{2}$ cm

~~(b) $4\sqrt{3}$ cm~~

(d) 8 cm

PYQ of SSC



$$AM = \frac{\sqrt{3}}{2} \cdot r$$

$$AB = \underline{\underline{\sqrt{3} r}}$$

length of common chord = $\sqrt{3} r$

Ans. (b)

Q31. A chord AB of a circle C_1 of a radius $(\sqrt{3} + 1)$ cm touches a circle C_2 which is concentric to C_1 . If the radius of C_2 is $(\sqrt{3} - 1)$ cm, the length of AB is:

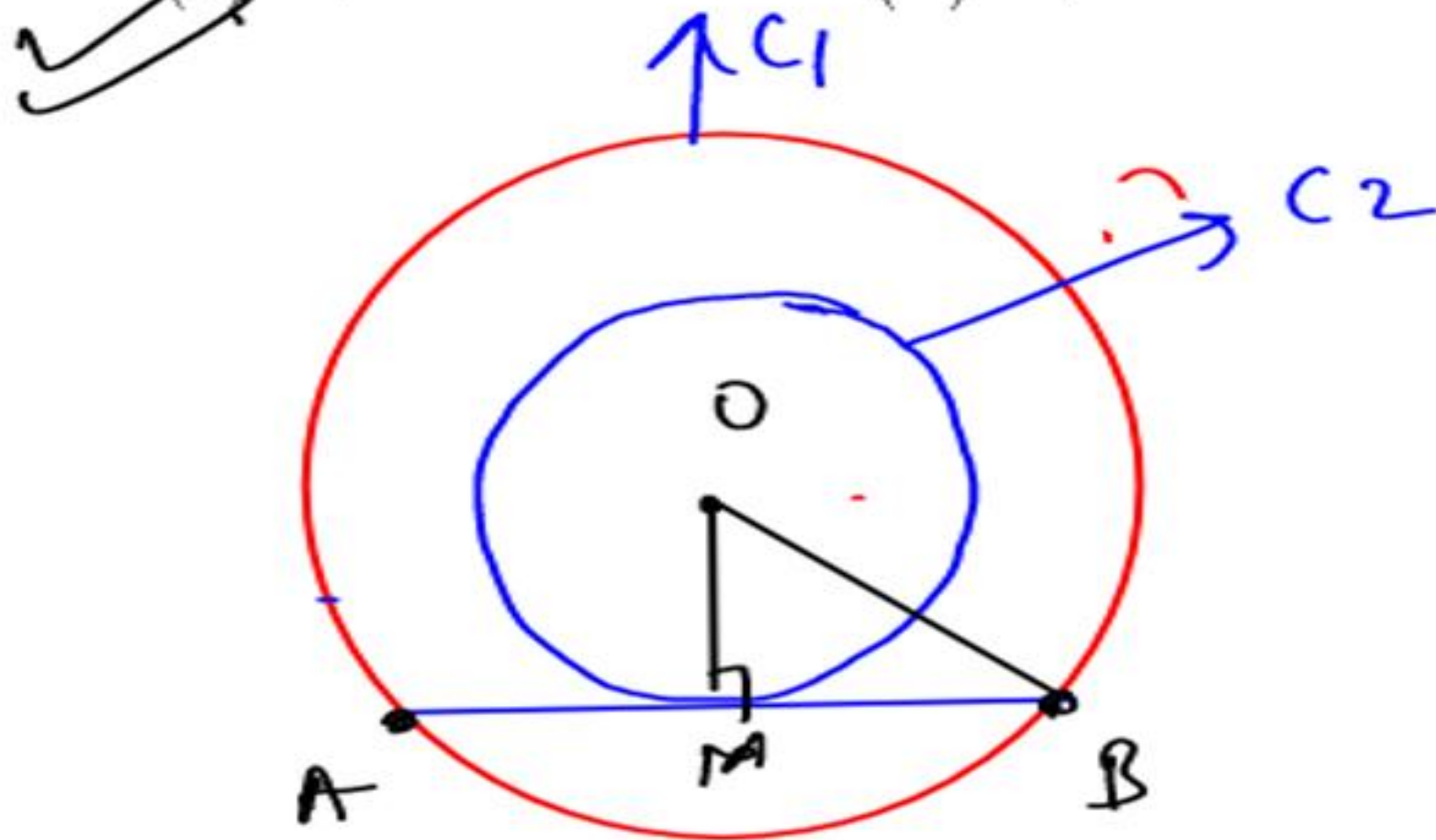
Ans
PYQ of SSC

(a) $2\sqrt{3}$ cm

(b) $8\sqrt{3}$ cm

(c) $4\sqrt{3}$ cm

(d) $4\sqrt{3}$ cm



$$OM = \sqrt{3} - 1$$

$$OB = \sqrt{3} + 1$$

$$MB = \sqrt{(OB)^2 - (OM)^2}$$

$$= \sqrt{4\sqrt{3}}$$

$$= \underline{\underline{2 \cdot 3^{1/4}}}$$

$$AB = 4 \cdot 3^{1/4}$$

Ans. (c)

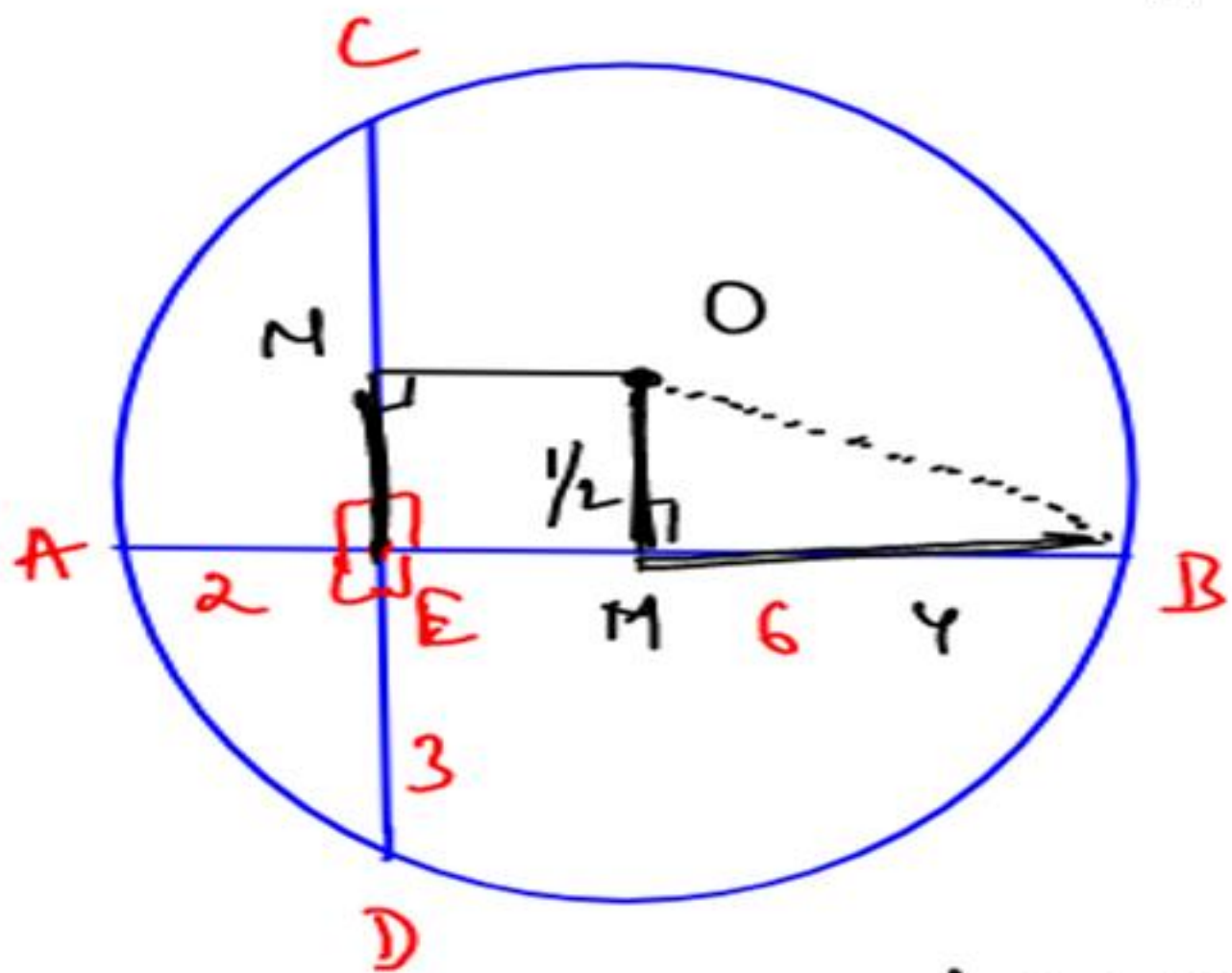
Q32. Chords AB and CD of a circle intersect at E and are perpendicular to each other. Segments AE, EB and ED are of lengths 2 cm 6 cm and 3 cm respectively. Then the length of the diameter of the circle (in cm) is

Ans

(a) $\sqrt{65}$
(c) 65

(b) $\sqrt{62}$
(d) $\frac{65}{2}$

Pythagorean of SSC



$\triangle OMB$

$$(i) \quad AE \times BE = CE \times DE$$

$$2 \times 6 = CE \times 3$$

$$\underline{CE = 4}$$

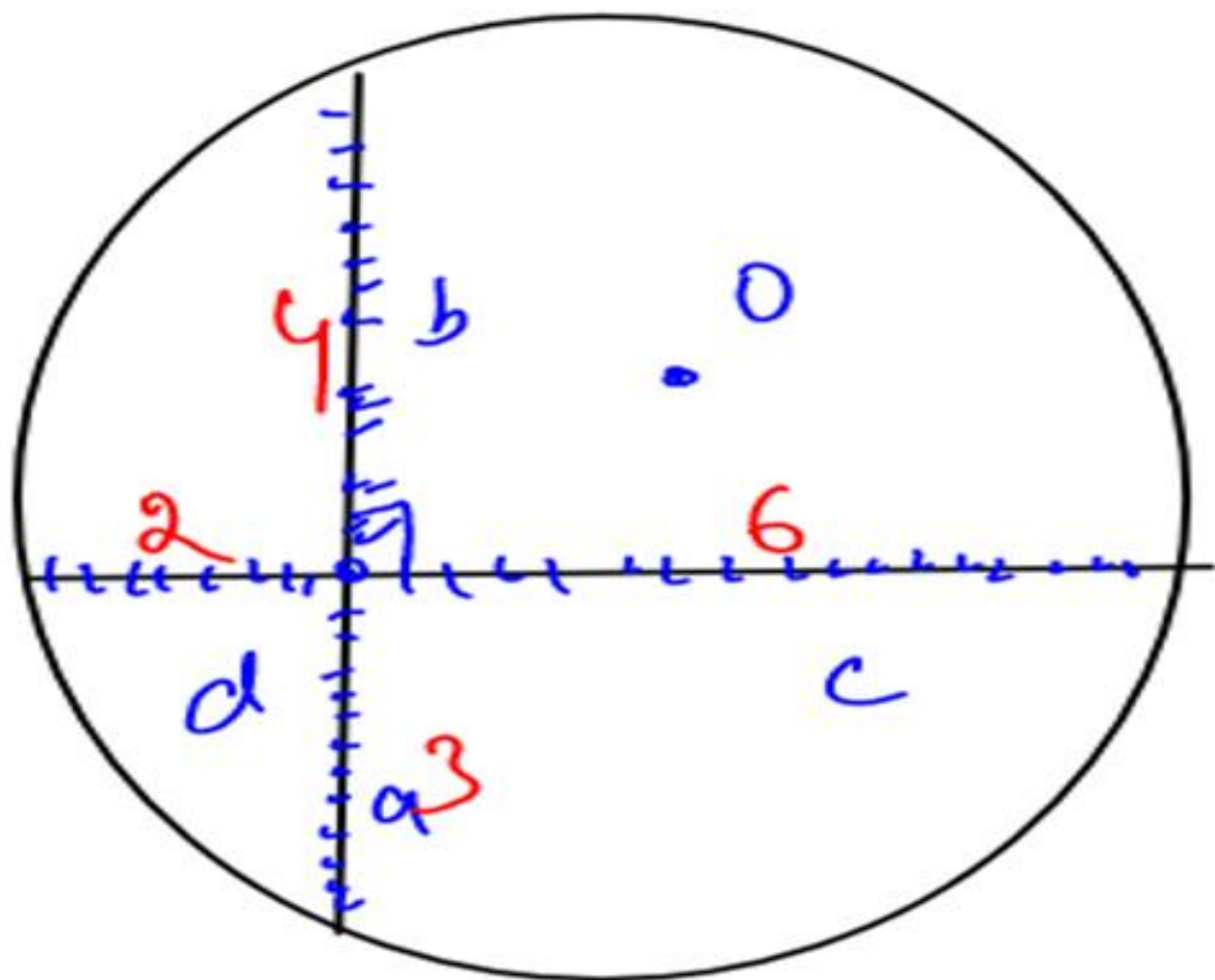
$$(ii) \quad MB = 4$$

$$ON = \frac{7}{2}$$

$$EN = \frac{7}{2} - 3 = \frac{1}{2}$$

$$OB = \sqrt{16 + \frac{1}{4}} = \frac{\sqrt{65}}{2}$$

Ans. (a)



Diameter of Circle

$$\sqrt{a^2 + b^2 + c^2 + d^2}$$

In Previous

Diameter =

$$\sqrt{2^2 + 6^2 + 3^2 + 4^2} \\ = \sqrt{65}$$

Q33. Two circles with centre P and Q intersect at B and C, A, D are points on the circle such that A, C, D are collinear. If $\angle APB = 130^\circ$, and $\angle BQD = x^\circ$, then the value of x is

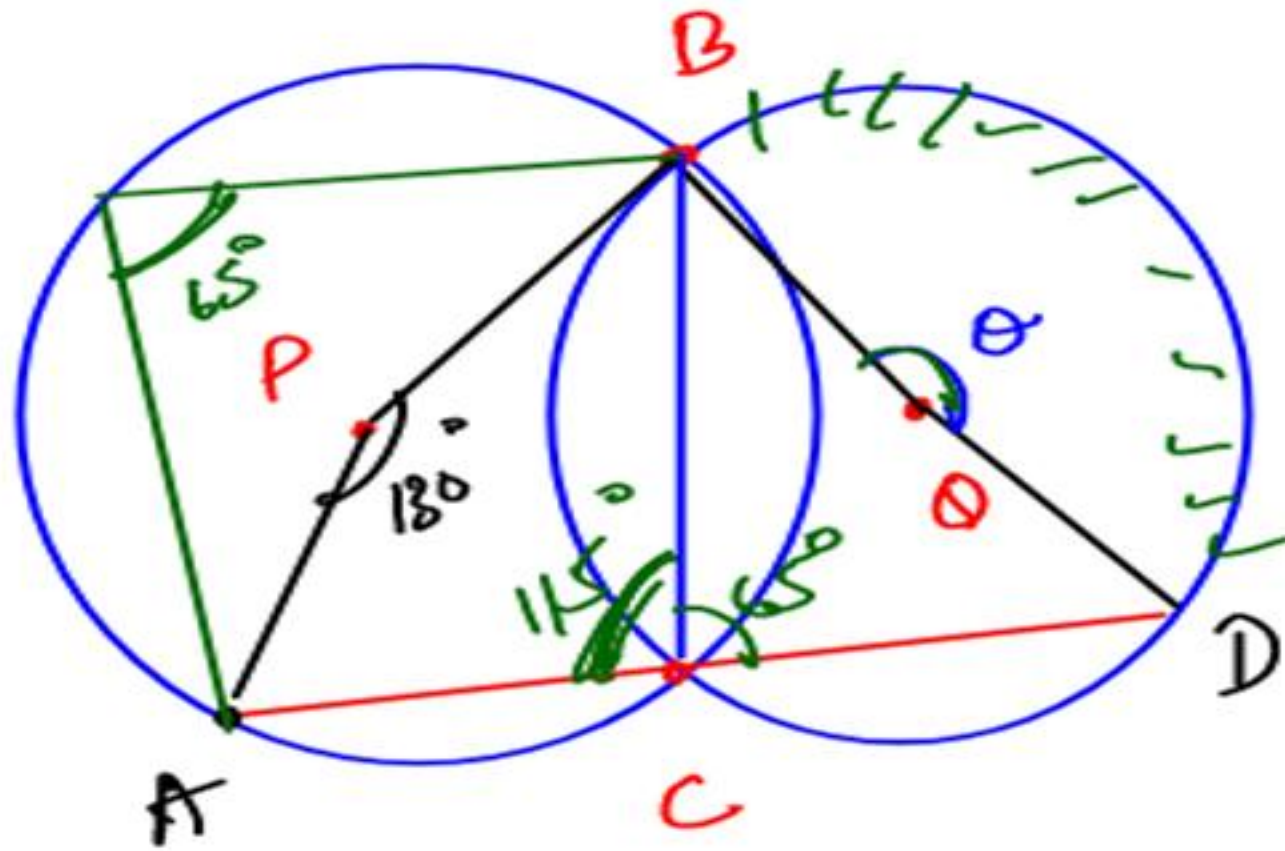
(a) 65

(b) 130

(c) 195

(d) 135

PYQ of SSC



$$x = 130$$

Ans. (b)

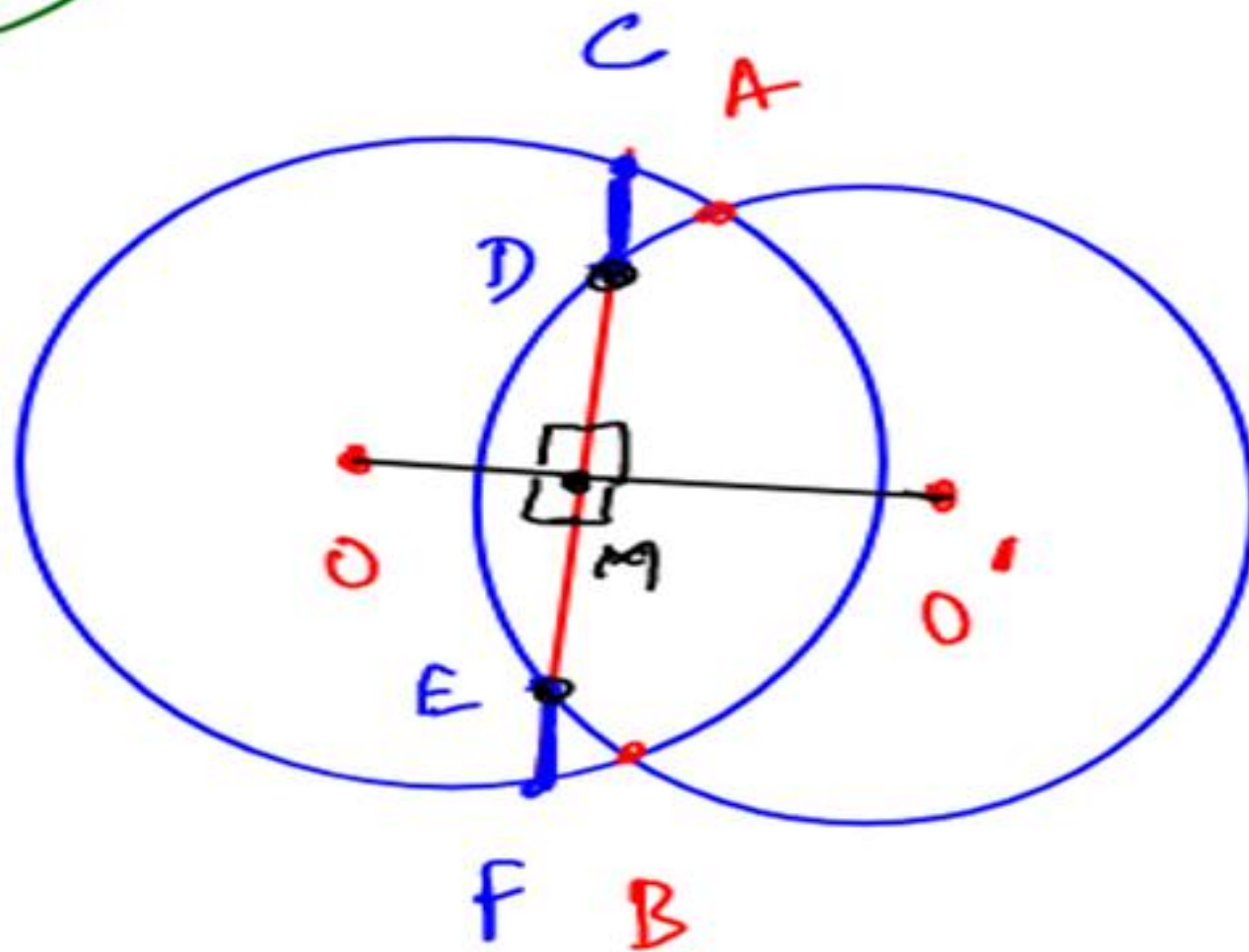
Q34. Two circles intersect each other at the points A and B. A straight line parallel to AB intersects the circles at C, D, E and F. If CD = 4.5 cm, then the measure of EF is:

(a) 1.50 cm

(b) 2.25 cm

✓ (c) 4.50 cm

(d) 9.00 cm



$$MF = MC \quad \text{--- (1)}$$

$$ME = MD \quad \text{--- (2)}$$

$$(1) - (2)$$

$$EF = \underline{\underline{CD}}$$

$$EF = \underline{\underline{4.5}}$$

Ans. (c)

Q35. Two circles having radii r units intersect each other in such a way that each of them passes through the centre of the other. Then the length of their common chord is:

(a) $\sqrt{2} r$ units

(c) $\sqrt{5} r$ units

☒ (b) $\sqrt{3} r$ units

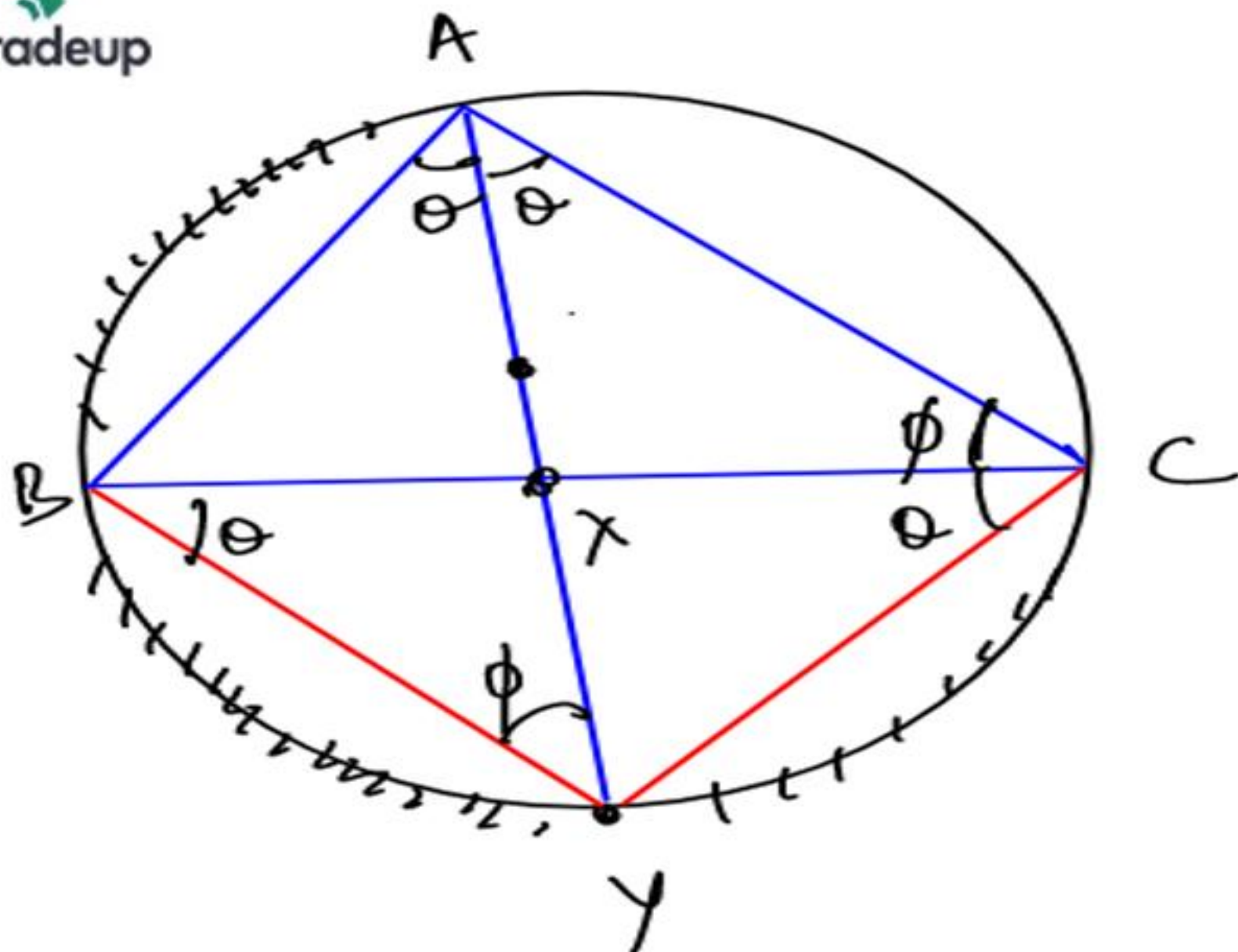
(d) 4 units

Ans. (b)

- $$A_0 = \frac{S}{\sqrt{G}}$$



$$= \frac{\sqrt{3}}{2} \cdot 5 \cdot \frac{10}{\sqrt{5}}$$



$$\triangle ACX \sim \triangle AYB \text{ (SS)}$$

$$\frac{AC}{AY} = \frac{AX}{AB}$$

$$AB \cdot AC = AX \cdot AY$$

Ans. (c)

Q39. In a $\triangle ABC$, $AB = AC$. A circle through B touches AC at D and intersects AB at P. If D is the mid point of AC, then which one of the following is correct?

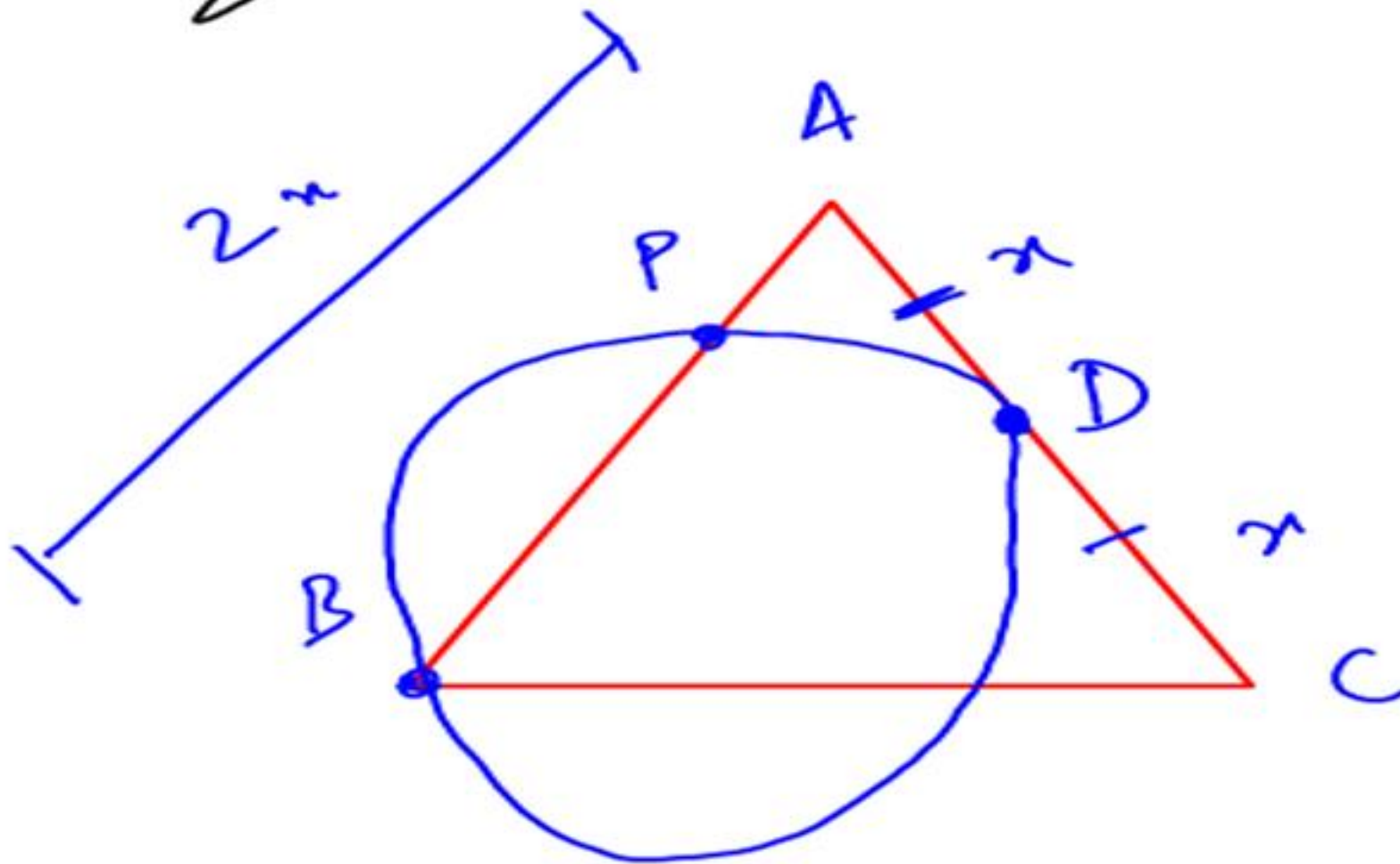
(a) $AB = 2AP$

(b) $AB = 3AP$

(c) $AB = 4AP$

(d) $2AB = 5AP$

Pyq of SSC



$$(AD)^2 = (AP)(AB)$$

$$x^2 = AP \cdot 2x$$

$$AP = \frac{x}{2}$$

$$\frac{AB}{AP} = \frac{4}{1}$$

$$\underline{\underline{AB = 4AP}}$$

Ans. (c)

Q40. N is the foot of the perpendicular from a point P of a circle with radius 7 cm, on a diameter AB of the circle. If the length of the chord PB is 12 cm, the distance of the point N from the point B is:

(a) $6\frac{5}{7}$ cm

(b) $12\frac{2}{7}$ cm

(c) $3\frac{5}{7}$ cm

(d) $10\frac{2}{7}$ cm

Ans. (d)

Q41. I and O are respectively the in-centre and circumcentre of a triangle ABC.

The line AI produced intersects the circumcircle of $\triangle ABC$ at the point D. If

$\angle ABC = x^\circ$, $\angle BID = y^\circ$ and $\angle BOD = z^\circ$, then $\frac{z + x}{y} = ?$

(a) 3

(b) 1

(c) 2

(d) 4

Ans. (c)

Q42. Two chords AB and CD of circle whose centre is O, meet at the point P and $\angle AOC = 50^\circ$, $\angle BOD = 40^\circ$. Then the value of $\angle BPD$ is:

(a) 60°

(b) 40°

(c) 45°

(d) 75°

Ans. (c)

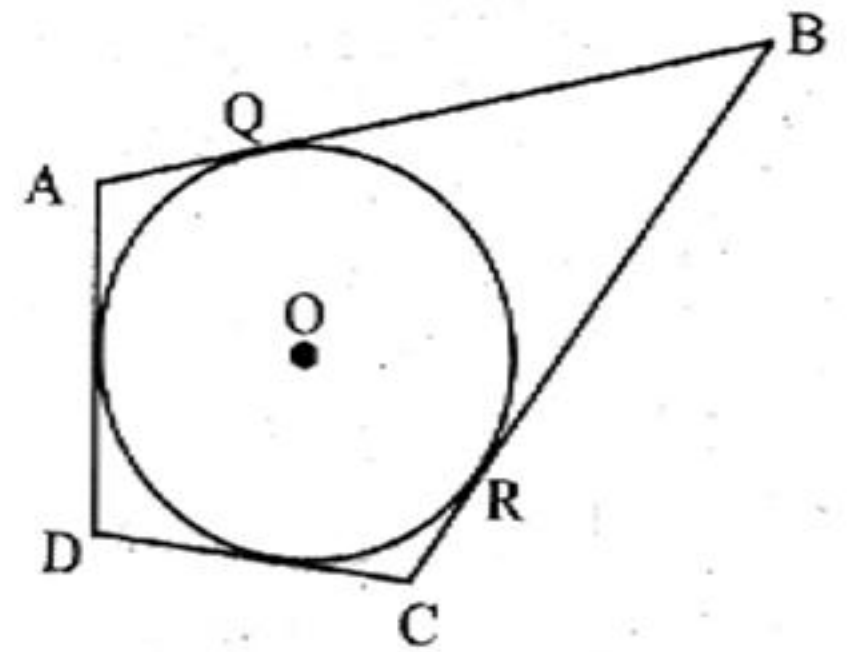
Q45. In the given figure, a circle is inscribed in a quadrilateral $ABCD$. Given that, $BC = 38$ cm, $QB = 27$ cm, $DC = 25$ cm and AD is perpendicular to DC . What is the radius of the circle?

(a) 11 cm

(b) 14 cm

(c) 15 cm

(d) 16 cm



Ans. (b)



Sahi Prep Hai Toh Life Set Hai

Practise
topic-wise quizzes

Keep attending
live classes

