CONSTRUCTIONS
PPT-4

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 11
CHAPTER NAME : CONSTRUCTIONS

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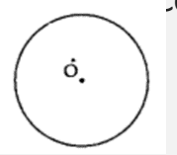
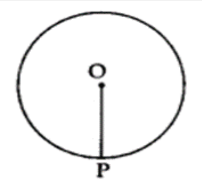
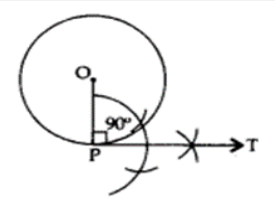
Construction of a Tangent at a Point on a Circle to the Circle when its Centre is Known



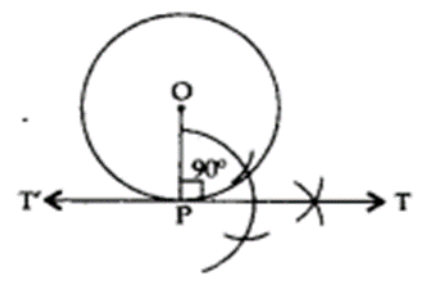
- Draw a circle with Centre O of the given radius.
- Take a given point P on the circle.



- Join OP.
- Construct ∠OPT = 90°.



- Produce TP to T' to get TPT' as the required tangent.



LEARNING OUTCOME

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1 . Students will be able to learn to divide a line segment internally in a given ratio.

2.Students will be able to construct a triangle similar to a given triangle as per given scale factor which may be less than 1 or greater than1.

3. Students will be able to construct the pair of tangents from an external point to a circle.

Quick revision:

https://youtu.be/l9QheYALrn0 (12.15)

1. Draw a triangle ABC with side BC = 6 cm, ∠C = 30° and ∠A = 105°. Then construct another triangle whose sides are 23 times the corresponding sides of ΔABC.

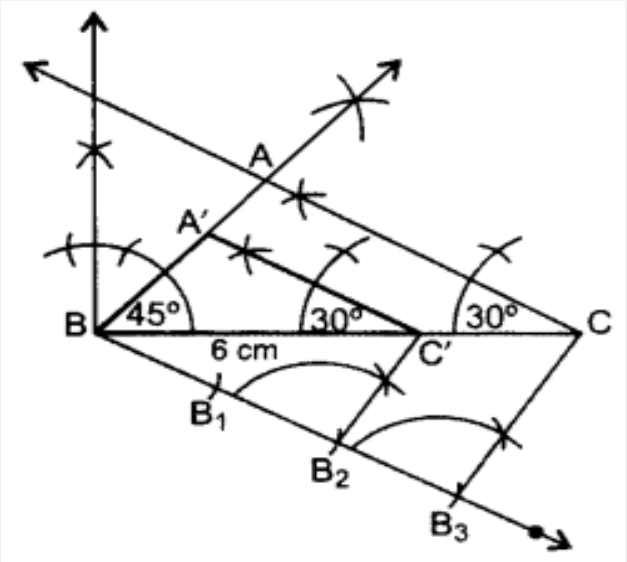
In ΔABC,

∠A + ∠B + ∠C = 180° …[Angle-sum-property of a Δ

105° + ∠B + 30o = 180°

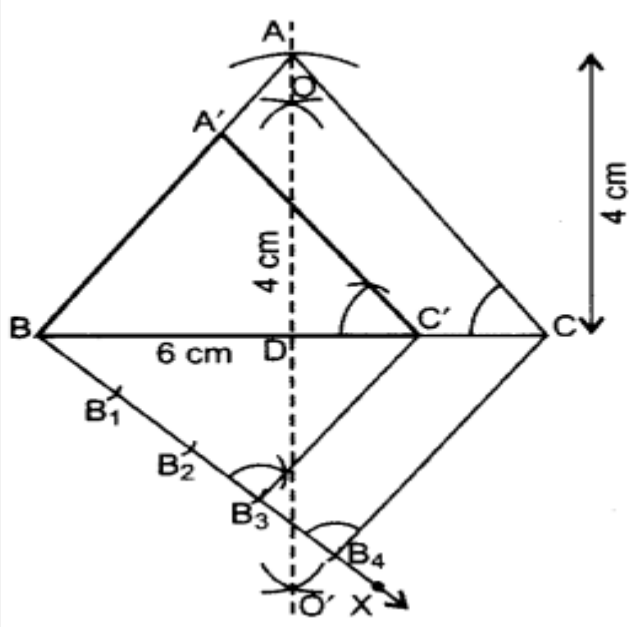
∠B = 180° – 105° – 30o = 45°

∴ ΔA'BC' is the required Δ



2.Construct an isosceles triangle whose base is 6 cm and altitude 4 cm. Then construct another triangle whose sides are 3/4 times the corresponding sides of the isosceles triangle.

ΔA'BC' is the required triangle



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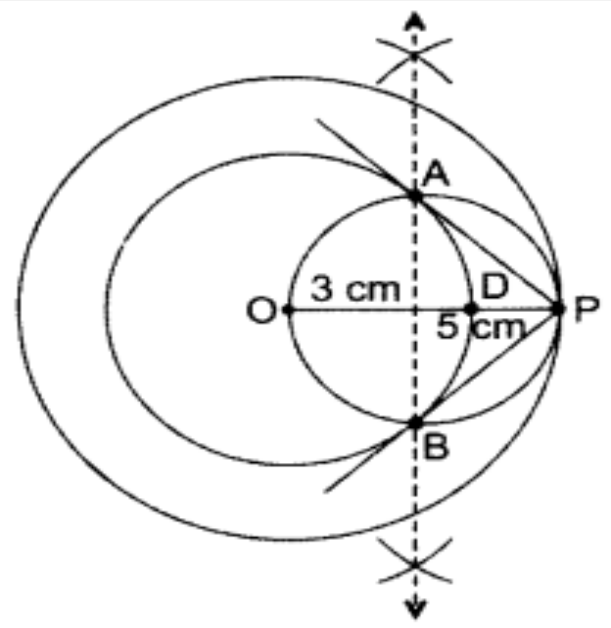
3.Draw two concentric cirlces of radii 3 cm and 5 cm. Construct a tangent to smaller circle from a point on the larger circle. Also measure its length.



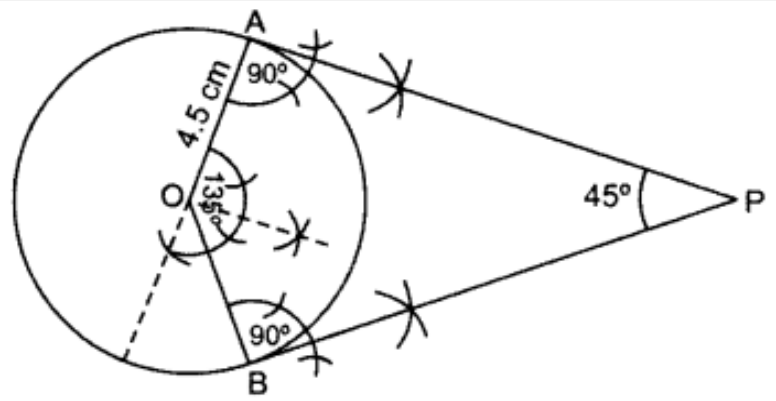
PA and PB are the required tangents

By measurement PA = PB = 4 cm.

4.. Draw a pair of tangents to a circle of radius 4.5 cm, which are inclined to each other at an angle of 45°.

Draw ∠AOB = 135°, ∠OAP = 90°, ∠OBP = 90°

∴ PA and PB are the required tangents



HOME ASSIGNMENT: CH-11

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THANKING YOU

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