ASSIGNMENT 5

Athar Javed

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- **Exercise 2.58:**

  Draw a pair of tangents to a circle of radius 5 cm which are inclined to each other at an angle of 60° :

- **Solution:**

Given, Radius of circle=r=5cm

Now,

Steps of Construction are:

1: Draw circle with centre O and radius OA=5 cm.

2: Mark another point B on the circle such that $\angle AOB = 120°$,

supplementary to the angle between the tangents. Since the angle between the

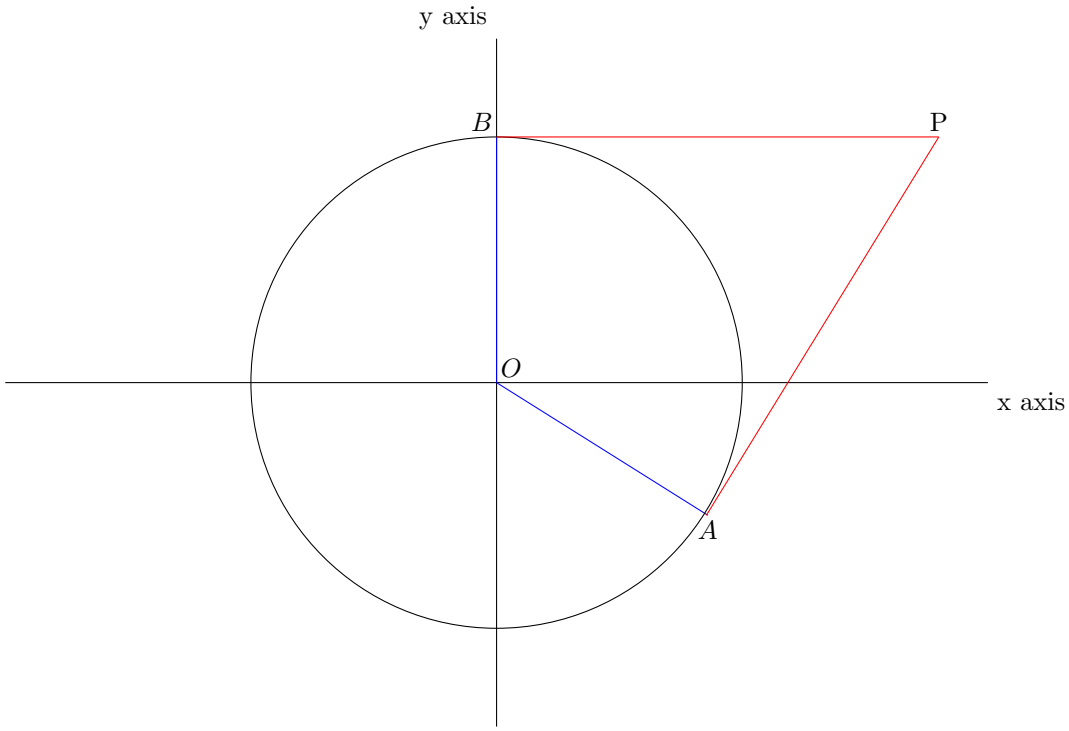
tangents to be constructed is 60°.

$\therefore \qquad \angle AOB = 180° - 60° = 120°.$

3: Construct angles of 90°,
at A and B and extend the lines so as to intersect at point P.

4: Thus, AP and BP are the required tangents to the circle.

Now, the figure of constructed tangents is given below,



BP and AP are the pair of tangents to a given circle.

- **Question 2.59:**

  Draw a line segment AB of length 8 units. Taking A as centre, draw a circle of radius 4 units and taking B as centre, draw another circle of radius 3 units. Construct tangents to each circle from the centre of the other circle:

- **Solution:**

  Given the radii of two concentric circles of radius 4 units and 6 units respectively,

  Steps of Construction:

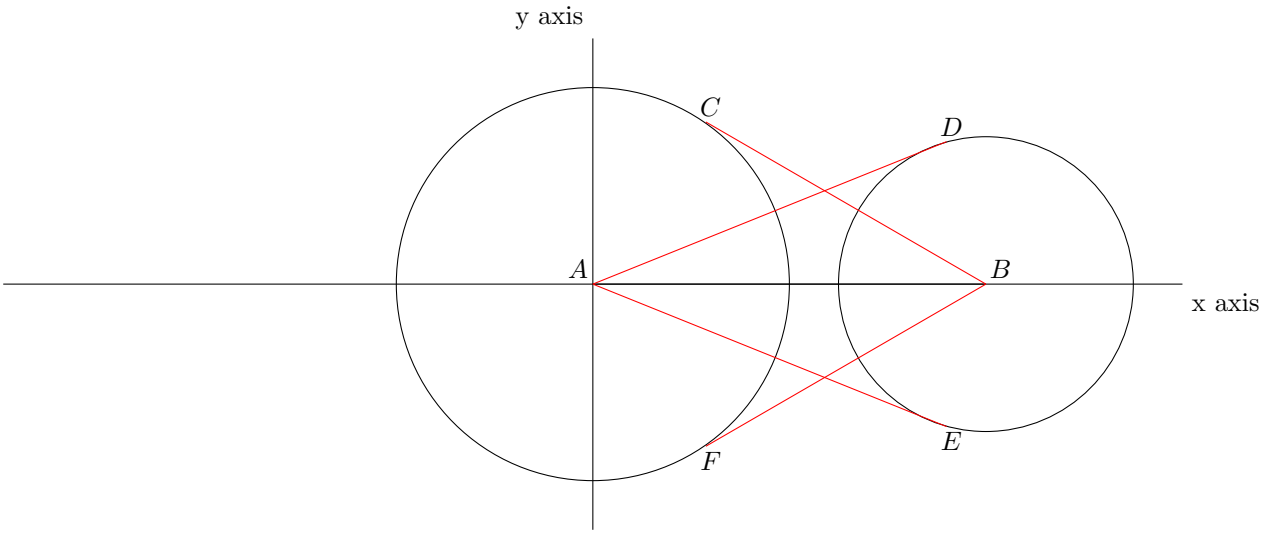
  1: Draw a line segment AB= 8units.

  2: Draw a circle of radius 4 units, taking A as its centre.

  3: Draw a circle of radius 3 units, taking B as its centre.

  4: Now, Draw the tangents to each circle from the centre of other circle.

  From the construction required tangents are given below:



  AD, AE and BC,BF are the two pairs of tangents to each circle from the centre of other circle.