Chapter Based Evaluation

KP
Std. 10

Mathematics
(Tangents)

Time:45 Mnts
Score:20

Instructions:

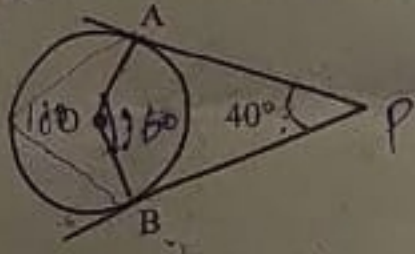
- The first 7 minutes are cool-off time.
- Time is spent for reading the question paper you are not supposed to write any thing during cool-off time.
- Read the instructions carefully and attempt this questions.

Answer any two questions. Each carries 1 score

1) The distance between two parallel tangents on a circle is 8 cm . What is the radius of the circle?

(a) 4 (b) 2 (c) 5 (d) 8

2) P A, P B are the tangents from P to the circle. If $\angle APB = 40°$ then what is the measure of angle AOB?



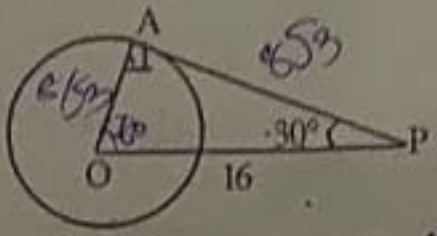
3) In the figure AB = AC = 12cm . If AP = 4cm then what is the length of BC?

(a) 14cm (b) 18cm (c) 10cm (d) 16cm

(P.T.O.)

4) **Answer any two questions. Each carries 2 score**

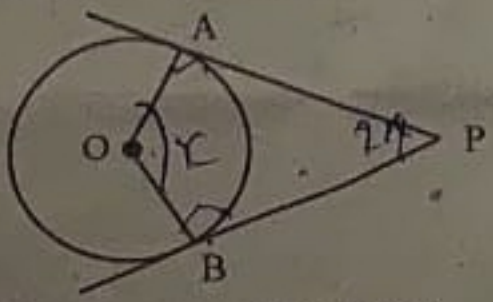
In the figure PA is the tangent ,OA is the radius and OP is the line joining center to the outer point and $\angle OPA = 30°$, OP = 16cm.



a) What is the length of tangent?

b) What is the radius of the circle?

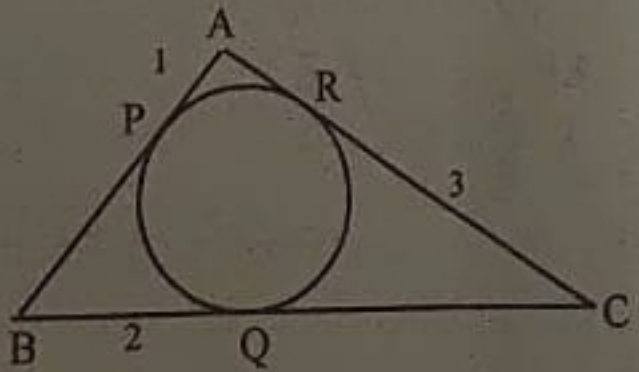
5) PA and PB are the tangents to the circle with center O. $\angle AOB$ is twice $\angle APB$.



a) What is the measure of $\angle APB$?

b) What is the measure of $\angle AOB$?

6) In the figure a circle touches the sides of a triangle. If AP = 1, BQ = 2 and CR = 3 then

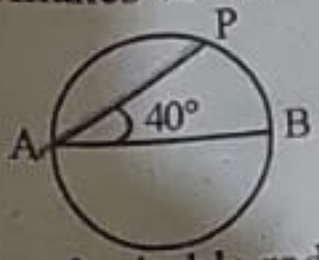


a) What is the perimeter of the triangle?

b) What is the area of the triangle?

Answer any two questions. Each carries 3 score

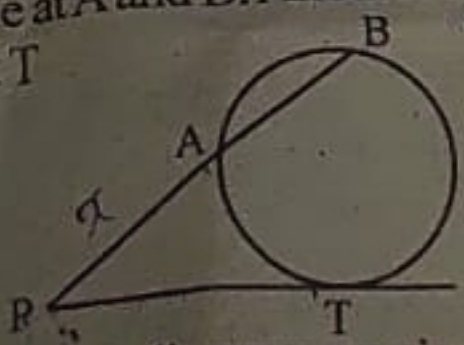
7) In the figure AB is the diameter of a circle, AP is a chord which makes 40° with the diameter AB.



a) Draw a circle of suitable radius and the chord AP in your answer sheet.

b) Draw a tangent at P without using the center of the circle.

8) P is a point outside the circle.A line from P intersect the circle at A and B. Another line from P touches the circle at T



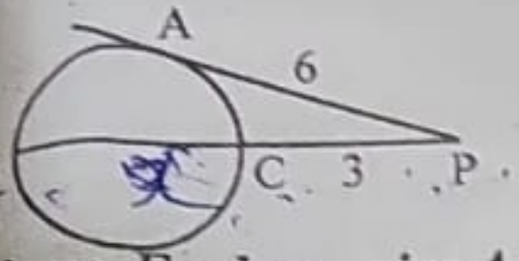
a) Draw a rough diagram as given above. Join AP and BP in your diagram.

b) Mention the similar triangles

c) Prove that $PA \times PB = PT^2$

9) In the figure BC is the diameter of the circle.P is a point on BC produced and PA is the tangent to the circle.

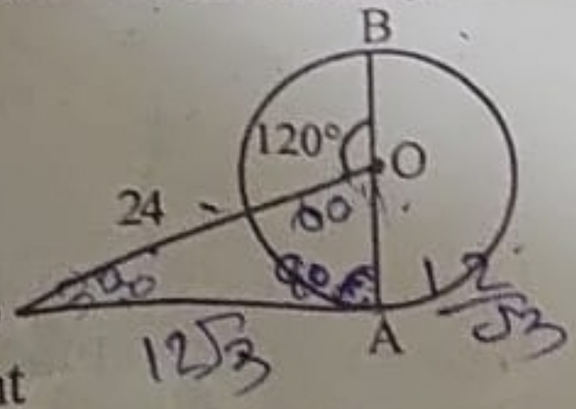
If $PA = 6$ and $PC = 3$ then



a) Find BC
b) What is the radius of the circle?

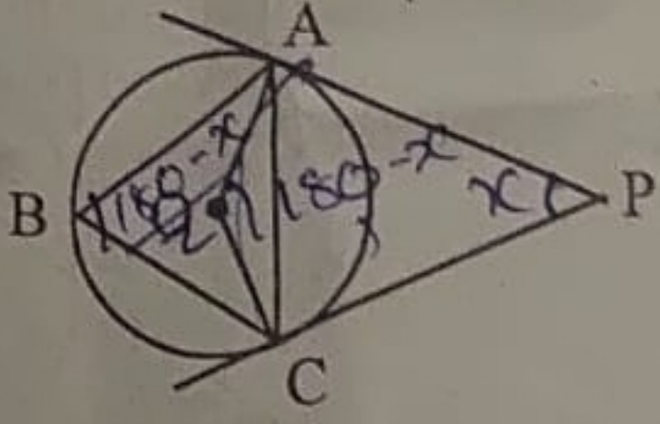
Answer any two questions. Each carries 4 score

10) In the figure O is the center of the circle, P A is the tangent and $OP = 24$cm



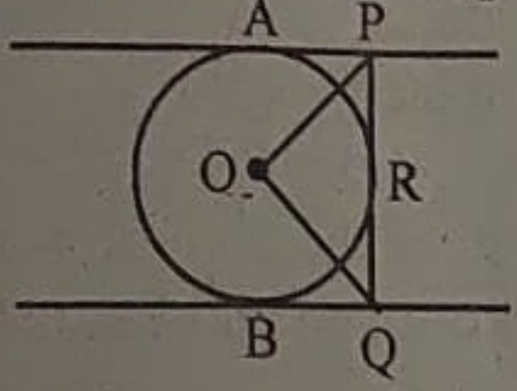
a) What are the angles of triangle OAP?
b) What is the radius of the circle?
c) Find the length of tangent

11) ABC is an equilateral triangle.O is the center of its circumcircle.P A and P C are the tangents to the circumcircle.



a) What is the measure of $\angle AOC$?
b) What is the measure of $\angle APC$?

12) In the figure P A and QB are parallel tangents. Another line touch the circle and cut the parallel tangents.



a) Draw a rough diagram and join OA, OR and OB.
b) Name the equal triangles in the figure.
c) Find the measure of $\angle POQ$