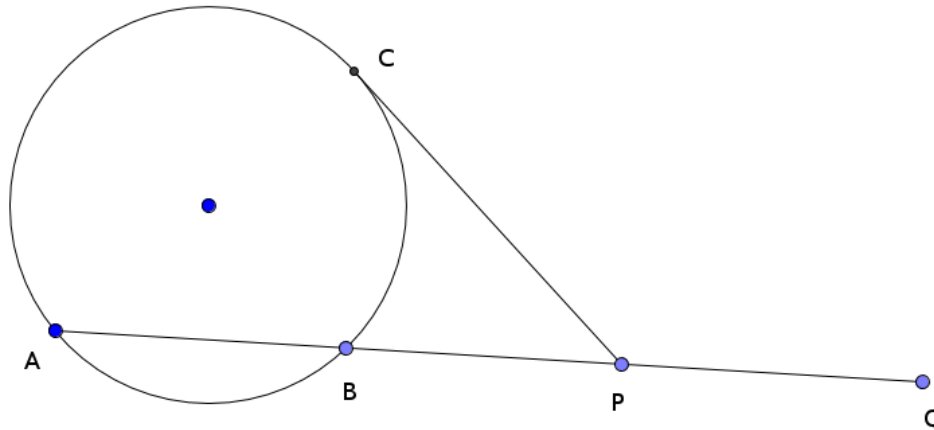**Chapter Name:Thoduvarakal** *Marks :(4)*
Quest:

In the figure PC is the tangent to the circle, If PC = 12 cm , PB = 8 cm and PQ = 2 cm find

a) the length of AP

b) the length of the tangent from Q to C

Hint:PA X PB

$= PC^2$ (1)

$PA = \dfrac{144}{8} = 18$ (1)

QA = 20, QB = 10

$QC^2 = 20 \times 10 = 200$ (1)

$QC = \sqrt{200} = 10\sqrt{2}$ (1)

Chapter Name:Thoduvarakal *Marks :(4)*
Quest:

Area of a right triangle is 60 sq. cm. And its inradius is 3cm. Find

a). the perimeter of the triangle

b). the length of the hypotenuse of the triangle

Hint:

semiperimeter $= \dfrac{60}{3} = 20$ (1)

perimeter = 40 (1)

Hypotenuse
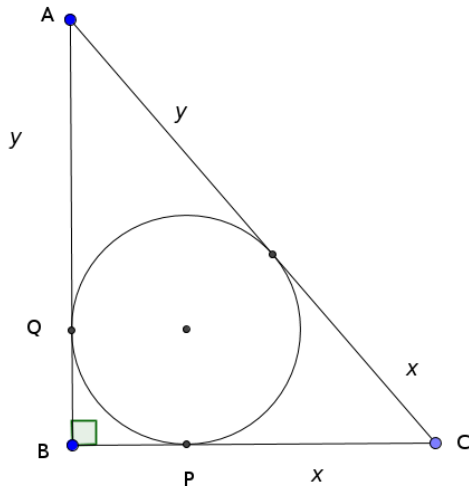
$= s - r = 20 - 3 = 17$ cm (1)

Chapter Name:Thoduvarakal *Marks :(4)*
Quest:

In the figure , ABC is a right triangle BP = 3 cm. If the hypotenuse of the triangle is 15 cm. , find

a). the inradius of the circle

b). the perimeter of the triangle

c). the area of the triangle

Hint:r = 3 cm

(1)

Perimeter = x + y + x + y + 3 + 3 = 15 + 15 + 6 = 36   (2)

Area = 3 X 18 = 54 sq.cm.   (1)

Chapter Name:Thoduvarakal *Marks :(4)*
Quest:

Draw a circle of radius 3 cm. Construct an equilateral triangle such that all the sides touching the circle.

Hint:

For Drawing circle of radius 3 cm (1)

Drawing radii by marking centre angles = 120º(1)

For Drawing perpendiculars to radii(1)

For completing the triangle (1)

Chapter Name:Thoduvarakal *Marks :(5)*
Quest:

Draw a triangle of sides 8 cm, 7 cm, and 6 cm . Draw its incircle and measure the inradius.

Hint:

For Drawing triangle (1)

For Drawing angle bisector(1)

For Drawing radius(1)

ForDrawing incircle(1)
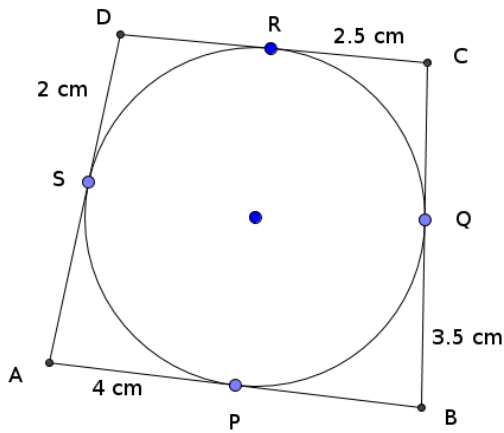
For measuring and writing radius(1)

Chapter Name:Thoduvarakal　　　　*Marks :(3)*
Quest:

The sides of the quadrilateral ABCD touches the circle at P,Q,R and S

a). Find the length of AS

b). Find all the sides of quadrilateral ABCD.

Chapter Name:Thoduvarakal　　*Marks :(5)*
Quest:

The sides of a triangle are 13 cm, 14 cm and 15 cm.

a). Find the perimeter of the triangle

b) Find Area of the triangle

c) Find Inradius of the triangle

Hint:

Perimeter = 13 + 14 + 15 = 42 cm　　　　　　(1)

$S = \dfrac{42}{2}$ = 21 cm　　　　　　(1)

Area = $\sqrt{21\times8\times7\times6}$　　　　(1)

= 84 sq.cm　　　　　　(1)

$r = \dfrac{84}{21}$ = 4 cm　　　　　　(1)

Chapter Name:Thoduvarakal　　　　*Marks :(4)*
Quest:

The perpendicular sides of the right triangle are 9 cm and 12 cm.

a). Find the perimeter of the triangle

b). Find the area of the triangle

c). Find the inradius of the triangle

Hint:

Hypotenuse= 15 cm　　　　　　(1)

Perimeter = 9 + 12 + 15 = 36   (1)
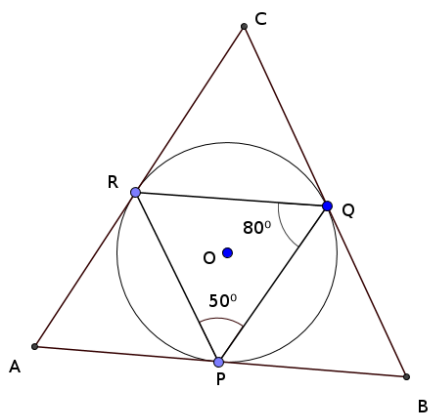
Area = $\dfrac{1}{2}$ X 9 X 12 = 54   (1)

r = $\dfrac{A}{S}$ = $\dfrac{54}{18}$ = 3 cm   (1)

Chapter Name:Thoduvarakal   *Marks :(4)*
Quest:

In the figure , incircle of triangle ABC touches the sides of the triangle at P, Q and R. Find the angles of triangle ABC

Hint: ∠POR = 2 X = 160   (1)

∠ A =   (1)

∠C =   (1)
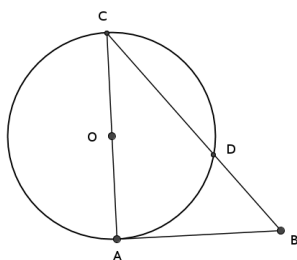
∠B =   (1)

Chapter Name:Thoduvarakal   *Marks :(3)*
Quest:

In the figure O is the centre of the circle and AB is a tangents to the circle. BD = 3.6 cm , CD = 6.4 cm Then

a). find the length of AB

b). find the radius of the circle.

Hint:BC = 10 cm   (1)

BD X BC = AB^2 = 36 , AB = 6   (1)

AC = 8 cm, radius = 4 cm   (1)