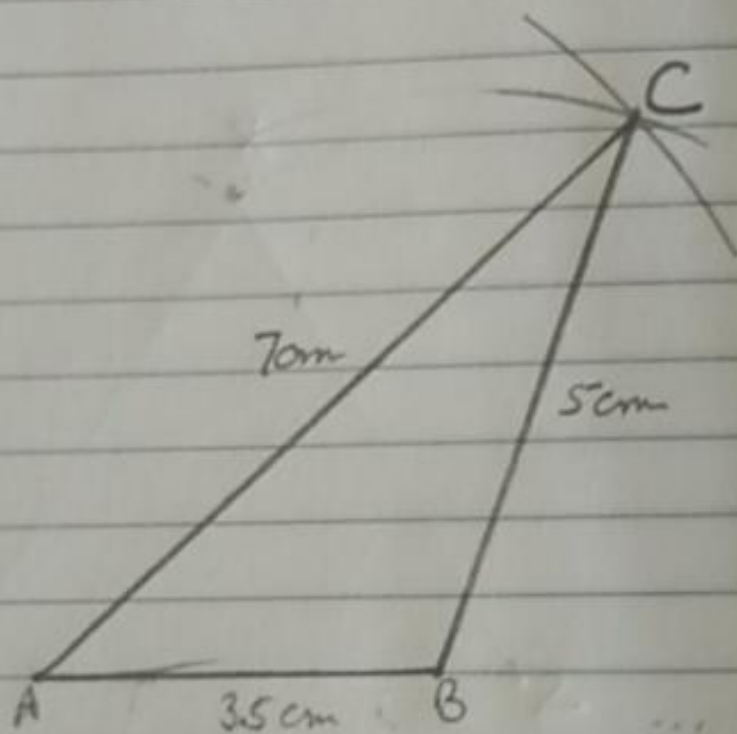


EXERCISE - 10.2

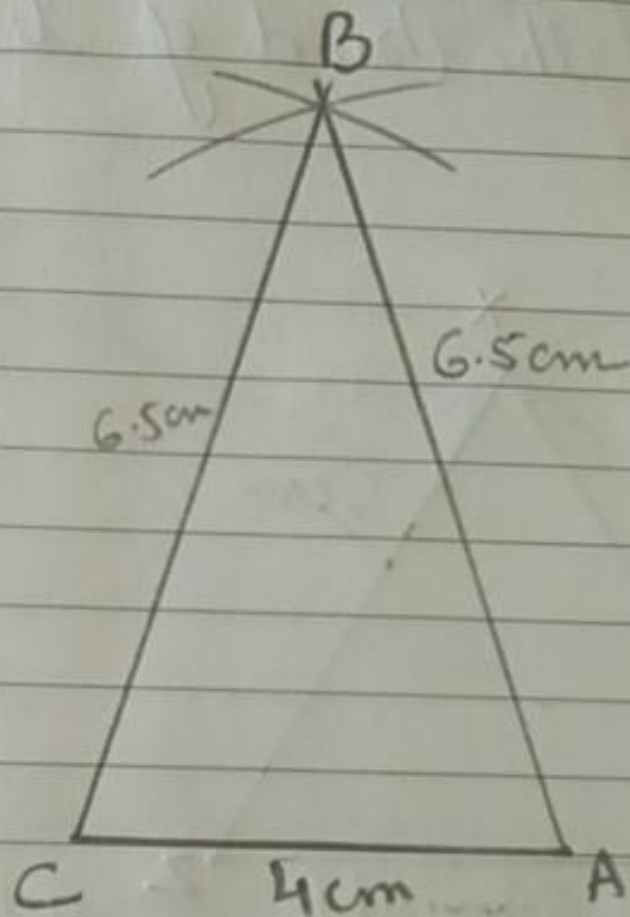
Ques 1) Construct a $\triangle ABC$ in which $AB = 3.5\text{cm}$, $BC = 5\text{cm}$ and $CA = 7\text{cm}$.



Steps of Construction.

- 1) Draw $AB = 3.5\text{cm}$.
- 2) Draw an Arc with centre B and radius 5cm .
- 3) Draw another arc with centre A and radius 7cm to meet the first arc at C.
- 4) Join AC and BC.
- 5) ABC is the required triangle.

Ques 2 Construct a triangle ABC in which $AB = BC = 6.5 \text{ cm}$ and $CA = 4 \text{ cm}$. Also name the kind of triangle drawn.



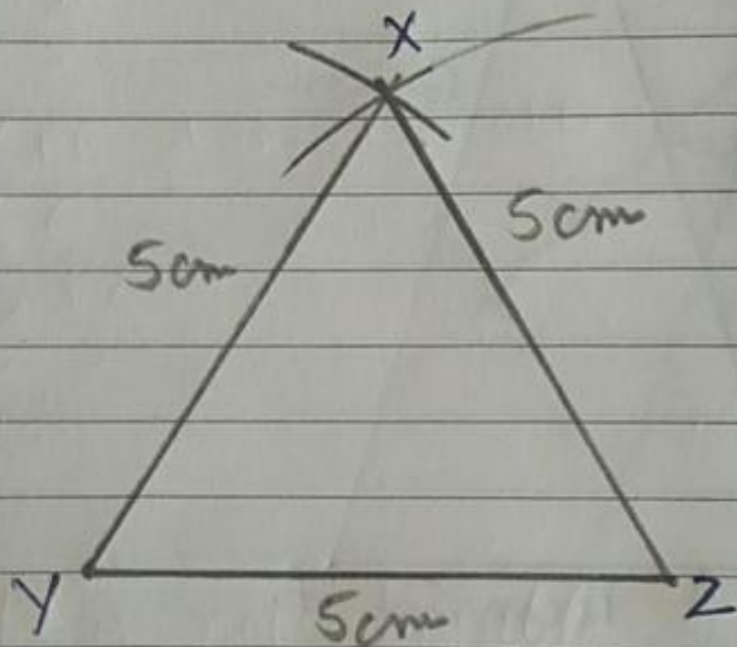
Steps of Construction.

- 1) Draw $CA = 4 \text{ cm}$.
- 2) Draw two arcs with centre C and A and same radius of 6.5 cm to meet each other at B.
- 3) Join BC and BA.
- 4) ABC is required triangle.

Since $BC = BA = 6.5 \text{ cm}$, therefore $\triangle ABC$

is an isosceles triangle.

Ques 3) Construct a triangle XYZ such that length of each side is 5cm. Also name the kind of triangle drawn.

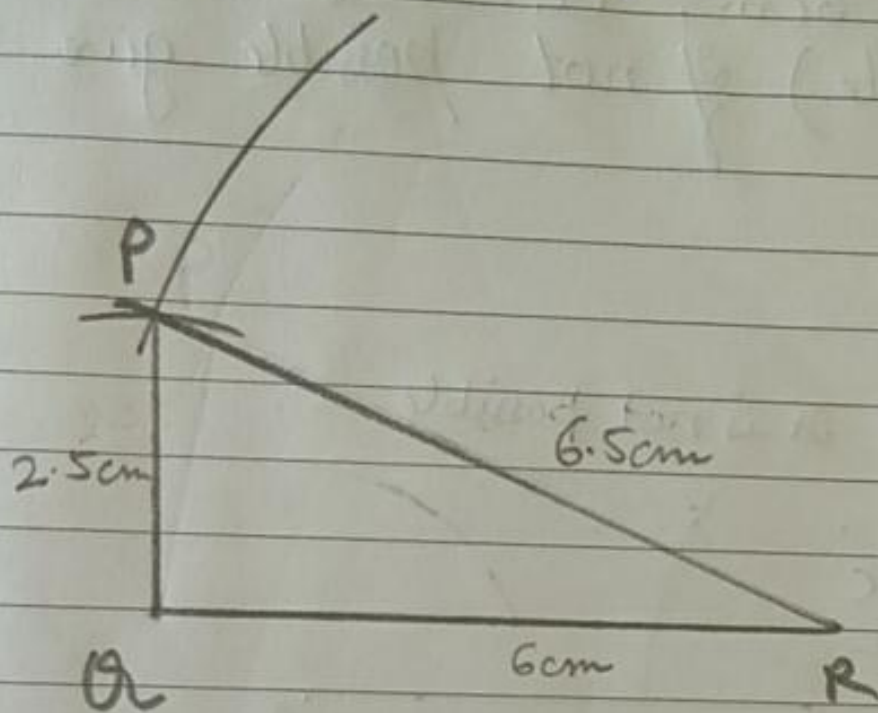


Steps of Construction.

- 1) Draw $YZ = 5\text{cm}$.
 - 2) Draw two arcs with centres Y and Z and same radius of 5cm to meet each other at X.
 - 3) join XY and XZ.
 - 4) XYZ is required triangle.
- Since all sides are equal i.e. 5cm

equilateral triangle.

Ques 4) Construct a triangle PAR such that $PA = 2.5\text{cm}$, $AR = 6\text{cm}$ and $RP = 6.5\text{cm}$. Measure $\angle PAR$ and also name the kind of triangle drawn.



Steps of Construction

- 1) Draw a line segment $AR = 6\text{cm}$
- 2) Taking A as centre and radius 2.5cm , draw an arc.
- 3) Similarly, Taking R as centre and radius 6.5cm , draw another arc which intersects first arc at point P .
- 4) Join PA and PR .
- 5) Since all sides are unequal so triangle is scalene triangle.
- 6) Measure angle $\angle A$ with the help of

protractor. It is the

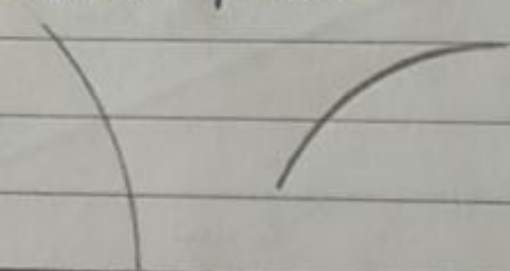
Ques 5) Construct a triangle ABC, in which $AB = 6\text{cm}$, $BC = 2\text{cm}$, $CA = 3\text{cm}$.
(if possible). If not possible give the reason.

$$1) AB + BC > CA \\ 6 + 2 > 3$$

$$2) BC + CA < AB \text{ It is not possible} \\ 2 + 3 < 6$$

$$3) AB + CA > BC \\ 6 + 3 > 2$$

A 6 cm B



No, it is not possible because the sum of two sides of triangle is not greater than the third side of triangle.

Ques 6) i) Which of the following can be used to construct a triangle?

- a) The lengths of the three sides.
- b) The perimeter of the triangle.
- c) The measures of three angles

d) The name of three vertices.

Ans a) The lengths of the three sides.

ii) A triangle can be constructed by taking its sides as.

a) 1.8 cm, 2.6 cm, 4.4 cm

b) 3 cm, 4 cm, 8 cm

c) 4 cm, 7 cm, 2 cm

d) 5 cm, 4 cm, 4 cm.

Ans. d) 5 cm, 4 cm, 4 cm.

a) $1.8 + 2.6 = 4.4$

$4.4 = 4.4$

$2.6 + 4.4 > 1.8$

$7.0 > 1.8$

$1.8 + 4.4 > 2.6$

$6.2 > 2.6$

It is not possible

b) $3 + 4 < 8$

$7 < 8$

$4 + 8 > 3$

$12 > 3$

$8 + 3 > 4$

$11 > 4$

It is not possible

c) $4 + 7 > 2$

$11 > 2$

$7 + 2 > 4$

$9 > 4$

$4 + 2 < 7$

$6 < 7$

It is not possible

d) $5 + 4 > 4$

$9 > 4$

$4 + 4 > 5$

$8 > 5$

$5 + 4 > 4$

$9 > 4$

It is possible