## CONSTRUCTION

## IMPORTANT CONCEPTS:-

## TAKE A LOOK

1. Division of line segment in the given ratio.
2. Construction of triangles:-
a. When three sides are given.
b. When two sides and included angle given.
c. When two angles and one side given.
d. Construction of right angled triangle.
3. Construction of triangle similar to a given triangle as per given scale.
4. Construction of tangents to a circle.

## LEVEL - I

1. Divide a line segment in given ratio.
2. Draw a line segment $A B=8 \mathrm{~cm}$ and divide it in the ratio 4:3.
3. Divide a line segment of 7 cm internally in the ratio $2: 3$.
4. Draw a circle of radius 4 cm . Take a point $P$ on it. Draw tangent to the given circle at $p$.
5. Construct an isosceles triangle whose base 7.5 cm and altitude is 4.2 cm .

## LEVEL -II

1. Construct a triangle of sides $4 \mathrm{~cm}, 5 \mathrm{~cm}$ and 6 cm and then triangle similar to it whose side are $2 / 3$ of corresponding sides of the first triangle.
2. Construct a triangle similar to a given $\triangle A B C$ such that each of its sides is $2 / 3^{\text {rd }}$ of the corresponding sides of $\triangle A B C$. It is given that $A B=4 \mathrm{~cm} B C=5 \mathrm{~cm}$ and $A C=6 \mathrm{~cm}$ also write the steps of construction.
3. Draw a right triangle $A B C$ in which $\angle B=90^{\circ} A B=5 \mathrm{~cm}, B C=4 \mathrm{~cm}$ then construct another triangle $A B C$ whose sides are $5 / 3$ times the corresponding sides of $\triangle A B C$.
4. Draw a pair of tangents to a circle of radius 5 cm which are inclined to each other at an angle of $60^{\circ}$.
5. Draw a circle of radius 5 cm from a point 8 cm away from its centre construct the pair of tangents to the circle and measure their length.
6. Construct a triangle $P Q R$ in which $Q R=6 \mathrm{~cm} \angle Q=60^{\circ}$ and $\angle R=45^{\circ}$. Construct another triangle similar to $\triangle P Q R$ such that its sides are $5 / 6$ of the corresponding sides of $\triangle P Q R$.
