Constructions

2 Marks:

1. Draw a line segment AB of length 7 cm. Using ruler and compasses, find a point P on AB such that $\frac{AP}{AB} = \frac{3}{5}$.
<div align="right">CBSE 2011, Outside Delhi (30/1)</div>

2. Draw a line segment of length 6 cm. Using compasses and ruler, find a point P on it which divides it in the ratio $3 : 4$.
<div align="right">CBSE 2011, Delhi (30/1/1)</div>

3 Marks:

1. Draw a triangle ABC in which $AB = 5\ cm, BC = 6\ cm$ and angle $ABC = 60°$. Construct a triangle whose sides are $\frac{5}{7}$ times the corresponding sides of triangle ABC.
<div align="right">CBSE Sample Paper II 2016</div>

2. Construct a ΔABC in which $AB = 6\ cm, \angle A = 30°$ and $\angle B = 60°$. Construct another $\Delta AB'C'$ similar to ΔABC with $AB' = 8\ cm$.
<div align="right">CBSE 2015, Outside Delhi (30/1)</div>

3. Construct a triangle with sides 5 cm, 5.5 cm and 6.5 cm. Now construct another triangle, whose sides are $\frac{3}{5}$ times the corresponding sides of the given triangle.
<div align="right">CBSE 2014, Outside Delhi (30/1), (30/3)</div>

4. Draw a line segment AB of length 8 cm. Taking A as centre, draw a circle of radius 4 cm and taking B as centre, draw another circle of radius 3 cm. Construct to each circle from the centre of the other circle.
<div align="right">CBSE 2014, Outside Delhi (30/2)</div>

5. Construct a triangle with sides 5 cm, 4 cm and 6 cm. Then construct another triangle whose sides are $\frac{2}{3}$ times the corresponding sides of first triangle.
<div align="right">CBSE 2013, Delhi (30/1/1)</div>

6. Draw a triangle ABC with $BC = 7\ cm, \angle B = 45°$ and $\angle C = 60°$. Then construct another triangle, whose sides are $\frac{3}{5}$ times the corresponding sides of ΔABC.
<div align="right">CBSE 2012, Outside Delhi (30/1)</div>

7. Construct a right triangle in which the sides, (other than the hypotenuse) are of length 6 cm and 8 cm. Then construct another triangle, whose sides are $\frac{3}{5}$ times the corresponding sides of the given triangle.
<div align="right">CBSE 2012, Delhi (30/1/1)</div>

8. Draw a right triangle in which the sides (other than the hypotenuse) are of lengths 6 cm and 8 cm. Then construct another triangle whose sides are $\frac{3}{5}$ times the corresponding sides of the given triangle.
<div align="right">CBSE 2012, Foreign (30/2/1)</div>

9. Draw a triangle ABC in which $AB = 5\ cm, BC = 6\ cm$ and $\angle ABC = 60°$. Then construct a triangle whose sides are $\frac{5}{7}$ times the corresponding sides of ΔABC.
<div align="right">CBSE 2011, Delhi (30/1/1)</div>

10. Draw a pair of tangents to a circle of radius 3 cm, which are inclined to each other at an angle of 60°.
<div align="right">CBSE 2011, Outside Delhi (30/1)</div>

11. Draw a right triangle in which the sides (other than hypotenuse) are of lengths 4 cm and 3 cm. Then construct triangle whose sides are $\frac{3}{5}$ times the corresponding sides of the given triangle.
<div align="right">CBSE 2011, Outside Delhi (30/1)</div>

12. Draw a line segment AB of length 7 cm. Taking A as centre, draw a circle of radius 3 cm and taking B as centre, draw another circle of radius 2 cm. Construct tangents to each circle from the centre of the other circle.
<div align="right">CBSE 2011, Foreign (30/2/1)</div>

13. Construct an isosceles triangle whose base is 8 cm and altitude 4 cm and then construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of the isosceles triangle.
<div align="right">CBSE 2011, Foreign (30/2/1)</div>

14. Construct a triangle ABC is which $BC = 8\ cm, \angle B = 45°$ and $\angle C = 30°$.
    Construct another triangle similar to ΔABC such that its sides are $\frac{3}{4}$ of the corresponding sides of ΔABC.
<div align="right">CBSE 2010, Delhi (30/1/1)</div>

15. Draw a circle of radius 3 cm. From a point P, 7 cm away from the centre of the circle, draw two tangents to the circle. Also, measure the lengths of the tangents.
<div align="right">CBSE 2010, Foreign (30/2/1)</div>

16. Draw a right triangle in which sides (other than hypotenuse) are of lengths 8 cm and 6 cm. Then construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of the first triangle. **CBSE 2009, Outside Delhi (30/1)**

17. Construct aΔABC in which $BC = 6.5\ cm, AB = 4.5\ cm$ and $\angle ABC = 60°$. Construct a triangle similar to this triangle whose sides are $\frac{3}{4}$ of the corresponding sides of the triangle ABC. **CBSE 2009, Delhi (30/1/1)**

18. Draw a circle of radius 3 cm. From a point P, 6 cm away from its centre, construct a pair of tangents to the circle. Measure the lengths of the tangents. **CBSE 2009, Foreign (30/2/1)**

19. Draw a right triangle in which the sides containing the right angle are 5 cm and 4 cm. Construct a similar triangle whose sides are $\frac{5}{3}$ times the sides of the above triangle. **CBSE 2008, Foreign (30/2/1), (30/2/2), (30/2/3)**

20. Construct a ΔABC in which $CA = 6\ cm, AB = 5\ cm$ and $BAC = 45°$, then construct a ΔABC. **CBSE Sample Paper I 2008**

21. Construct a triangle similar to given ABC in which $AB = 4\ cm, BC = 6\ cm$ and $\angle ABC = 60°$, such that each side of the new triangle is $\frac{3}{4}$ of given ΔABC. **CBSE Sample Paper II 2008**

22. Construct a circle whose radius is equal to 4 cm. Let P be a point whose distance from its centre is 6 cm. Construct two tangents to it from P. **CBSE Sample Paper III 2008**

4 Marks:

1. Construct a triangle ABC with side $BC = 7\ cm, \angle B = 45°, \angle A = 105°$. Then construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of the $\Delta\ ABC$. **CBSE 2017, Outside Delhi (30/1)**

2. Construct an isosceles triangle with base 8 cm and altitude 4 cm. Construct another triangle whose sides are $\frac{2}{3}$ times the corresponding sides of the isosceles triangle. **CBSE 2017, Delhi (30/1/1)**

3. Draw two concentric circles of radii 3 cm and 5 cm. Taking a point on the outer circle, construct the pair of tangents to the inner circle. **CBSE 2017, Foreign (30/2/1)**

4. Draw a ΔABC with sides $BC = 5\ cm, AB = 6\ cm$ and $AC = 7\ cm$ and then construct a triangle similar to ΔABC whose sides are $\frac{4}{7}$ of the corresponding sides of $\Delta\ ABC$. **CBSE Sample Paper 2017**

5. Draw a circle of radius 4 cm. Draw two tangents to the circle inclined at an angle of 60° to each other. **CBSE 2016, Outside Delhi (30/1)**

6. Draw two concentric circles of radii 3 cm and 5 cm. Construct a tangent to smaller circle from a point on the larger circle. Also measure its length. **CBSE 2016, Delhi (30/1/1)**

7. Draw a ΔABC in which $AB = 4\ cm, BC = 5\ cm$ and $AC = 6\ cm$. Then construct another triangle whose sides are $\frac{3}{5}$ of the corresponding sides of ΔABC. **CBSE 2016, Foreign (30/2/1)**

8. Draw a pair of tangents inclined to each other at an angle of 60° to a circle of radius 3 cm. **CBSE Sample Paper II 2016**

9. Construct a triangle ABC with $BC = 7\ cm, \angle B = 60°$ and $AB = 6\ cm$. Construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of $\Delta\ ABC$. **CBSE 2015, Delhi (30/1/1)**

10. Draw a circle of radius 3 cm. From a point P, 7 cm away from its centre draw two tangents to the circle. Measure the length of each tangent. **CBSE 2015, Foreign (30/2/1)**

11. Draw a triangle ABC in which $AB = 5\ cm, BC = 6\ cm$ and $\angle ABC = 60°$. Construct another triangle similar to ΔABC with scale factor $\frac{5}{7}$. **CBSE 2015, Sample**