



# MATHS

## NCERT - NCERT

## MATHEMATICS(HINGLISH)

## CONSTRUCTIONS

### Construction

1. To construct the bisector of a given angle.



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2. To construct the perpendicular bisector of a given line segment.



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3. Construct an angle of  $60^\circ$  at the initial point of a given ray.



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4. To construct a triangle, given its base, a base angle and sum of other two sides.



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5. To construct a triangle given its base, a base angle and the difference of the other two sides.



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6. To construct a triangle, given its perimeter and its two base angles.



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## Example

1. Construct a triangle  $ABC$ , in which  $\angle B = 60^\circ$ ,  $\angle C = 45^\circ$  and  $AB + BC + CA = 11$  cm.



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## Exercise 11 1

1. Construct an angle of  $90^\circ$  at the initial point of a given ray and justify the construction.



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2. Construct an angle of  $45^\circ$  at the initial point of a given ray and justify the construction.



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**3.** Construct the angles of the following measurements:

(i)  $30^\circ$  , (ii)  $22\frac{1}{2}^\circ$  , (iii)  $15^\circ$



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**4.** Construct the following angles and verify by measuring them by a protractor:

(i)  $75^\circ$  , (ii)  $105^\circ$  , (iii)  $135^\circ$



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5. Construct an equilateral triangle, given its side and justify the construction.



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## Exercise 11 2

1. Construct a triangle  $ABC$  in which  $BC = 7\text{cm}$ ,  
 $\angle B = 75^\circ$  and  $AB + AC = 13\text{ cm}$ .



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2. Construct a triangle ABC in which  $BC = 8\text{cm}$ ,  
 $\angle B = 45^\circ$  and  $AB - AC = 3.5\text{ cm}$ .



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3. Construct a triangle PQR in which  $QR = 6\text{cm}$ ,  
 $\angle Q = 60^\circ$  and  $PR - PQ = 2\text{cm}$ .



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4. Construct a triangle XYZ in which  $\angle Y = 30^\circ$ ,  $\angle Z = 90^\circ$  and  $XY + YZ + ZX = 11$  cm



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5. Construct a right triangle whose base is 12cm and sum of its hypotenuse and other side is 18 cm.



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