MATHS

NCERT - NCERT MATHEMATICS(ENGLISH)

CONSTRUCTIONS

Construction

1. Construct the angle bisector of the given $\angle PQR$ with a compass.

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2. Write the steps for constructing a perpendicular bisector to a given line segment.

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3. Construct an angle of 60° 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 the following angles at the initial point of a given ray and justify the construction: (i) 45^0 (ii) 90^0

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2. Construct an angle of 45° 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° , (ii)$22\frac{1}{2^\circ}$, (iii) 15°

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

(i)75° , (ii)105° , (iii)135°

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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 = 7cm, $\angle B = 75^\circ$ and AB + AC = 13 cm.

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

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

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4. Construct a triangle XYZ in which $\angle Y = 30^0,\ \angle Z = 90^0\ and\ XY + YZ + ZX = 11cm$

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

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