Constructions

Write **True** or **False** in each of the following. Give reasons for your answer:

1) An angle of 52.5° can be constructed.
2) An angle of 42.5° can be constructed.
3) A triangle ABC can be constructed in which AB = 5 cm, ∠A = 45° and BC + AC = 5 cm.
4) A triangle ABC can be constructed in which BC = 6 cm, ∠C = 30° and AC – AB = 4 cm.
5) A triangle ABC can be constructed in which ∠ B = 105°, ∠C = 90° and AB + BC + AC = 10 cm.
6) A triangle ABC can be constructed in which ∠ B = 60°, ∠C = 45° and AB + BC + AC = 12 cm.

7) Draw an angle of 110° with the help of a protractor and bisect it. Measure each angle.
8) Draw a line segment AB of 4 cm in length. Draw a line perpendicular to AB through A and B, respectively. Are these lines parallel?
9) Draw an angle of 80° with the help of a protractor. Then construct angles of (i) 40° (ii) 160° and (iii) 120°.
10) Construct a triangle whose sides are 3.6 cm, 3.0 cm and 4.8 cm. Bisect the smallest angle and measure each part.
11) Construct a triangle ABC in which BC = 5 cm, ∠B = 60° and AC + AB = 7.5 cm.
12) Construct a square of side 3 cm.
13) Construct a rectangle whose adjacent sides are of lengths 5 cm and 3.5 cm.
14) Construct a rhombus whose side is of length 3.4 cm and one of its angles is 45°.

Construct each of the following and give justification :

15) A triangle if its perimeter is 10.4 cm and two angles are 45° and 120°.
16) **A triangle PQR given that QR = 3cm, ∠ PQR = 45° and QP – PR = 2 cm.**
17) **A right triangle when one side is 3.5 cm and sum of other sides and the hypotenuse is 5.5 cm.**
18) **An equilateral triangle if its altitude is 3.2 cm.**

A rhombus whose diagonals are 4 cm and 6 cm in lengths.