**CHAPTER-10**

**Practical Geometry**

**IMPORTANT POINTS TO REMEMBER**

(i) The exterior angle of a triangle is equal in measure to the sum of interior opposite angles.

(ii) The total measure of the three angles of a triangle is 180°.

(iii) Sum of the lengths of any two sides of a triangle is greater than the length of the third side.

(iv) In any right-angled triangle, the square of the length of hypotenuse is equal to the sum of the squares of the lengths of the other two sides.

**LEVEL 1**

Q1. Can the following angles be the angles of a triangle...

(1)40°, 120°,70° (2)50°,100°, 30° (3)120°,40°,100°.

Q2. Fill in the blanks :

1. Measure of each angle of an equilateral triangle is ................

 (b) Sum of any two sides of a triangle is .............. than the third side.

 Q3. In a triangle ABC AB=AC, $∠$A=40. Find $∠$B and $∠$C .

**LEVEL 2**

Q4. Draw a line segment AB=5 CM. Take a point C on it such that AC=2CM. Draw perpendicular at C.

Q5. Draw a line PQ , draw its perpendicular bisector.

Q6. Draw the following angles using compasses 90,135,75 .

Q7. Construct equilateral triangle with side 6cm.

Q8. Draw a line PQ .Take a point R outside it. Through R draw a line parallel to PQ using ruler and compass.

**LEVEL 3**

Q9. Construct triangle ABC which AB=6cm, ,B=45,BC=5CM.

Q10. Construct triangle PQR,QR-4cm,Q-30,P 100.

Q11. Construct a right angled triangle ABC right angled at B with base 4 cm and hypotenuse 5 cm.

Q12. Construct triangle STR, in which TR=4 ,CM ,S=3O,ST=SR.

Q13. Draw a line p. Draw a perpendicular to p at any point on p on this perpendicular choose a point r 5 cm away from p. Through r draw a line parallel to p .

Q14. Construct an isosceles right-angled triangle ABC, where m∠ACB =90°and AC = 6 cm.

**WORKSHEET**

Below are given the measures of certain sides and angles of triangles. Identify those which cannot be constructed and say why you cannot construct them. Construct rest of the triangle. Triangle Given measurements

1.$∆$ABC m$∠$A =85 ; m$∠$B =115 ; AB = 5 cm

2.$ ∆$ABC m$∠$A =70 ; m$∠$B =50 ; AC = 3 cm

3.$ ∆$LMN m$∠$L =60 ; m$∠$N =120 ; LM = 5 cm

4.$ ∆$ABC BC = 2 cm; AB = 4 cm; AC = 2 cm

5.$ ∆$PQR PQ = 3.5 cm; QR = 4 cm; PR = 3.5 cm

6.$ ∆$DEF DE = 4.5 cm; EF = 5.5 cm; DF = 4 cm