CLASS 9

LINES AND ANGLES

TRIANGLE AND THEIR THEOREM

EXERCISE

- **Q.1** If the angles of a triangle are in the ratio 2 : 3 : 4, determine all the angles of triangle.
- **Q.2** An exterior angle of a triangle is 115° and one of the opposite angles is 35°. Find the other two angles.
- **Q.3** In figure, $\angle ACD = 120^{\circ}$ and $\angle APB = 100^{\circ}$, find x and y.



Q.4 In figure, if $QT \perp PR$, $\angle TQR = 40^{\circ}$ and $\angle SPR = 30^{\circ}$, find x and y.



- **Q.5** If the angles of a triangle are in the ratio 2 : 3 : 4, find the three angles.
- **Q.6** One of the angles of a triangle is 65°. Find the remaining two angles, if their difference is 25°.
- **Q.7** Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled.

CLASS 9

- **Q.8** Side BC of a DABC is produced in both the directions. Prove that the sum of the two exterior angles so formed is greater than 180°.
- **Q.9** The side EF, FD and DE of a triangle DEF are produced in order forming three exterior angles DFP, EDQ and FER respectively. Prove that $\angle DFP + \angle EDQ + \angle FER = 360^{\circ}$.
- **Q.10** In $\triangle ABC$, $\angle B = 45^{\circ}$, $\angle C = 55^{\circ}$ and bisector of $\angle A$ meets BC at a point D. Find $\angle ADB$ and $\angle ADC$.

ANSWER KEY

- **5.** 40°, 60°, 80°
- **6.** 70°, 45°
- **10.** $\angle ADB = 95^{\circ}, \angle ADC = 85^{\circ}$