Maths

Reg.No. : ☐☐☐☐☐☐

I. Answer all the questions

Time : 01:30:00 Hrs

Total Marks : 35

Part-A

10 x 1 = 10

1) Which of the following will be the angles of a triangle?

   (a) 35°, 45°, 90°   (b) 26°, 58°, 96°   (c) 38°, 56°, 96°   (d) 30°, 55°, 90°

2) Which of the following statement is correct ?

   (a) Equilateral triangle is equiangular   (b) Isosceles triangle is equiangular.   (c) Equiangular triangle is not equilateral.   (d) Scalene triangle is equiangular

3) The three exterior angles of a triangle are 130°, 140°, x° then x° is

   (a) 90°   (b) 100°   (c) 110°   (d) 120°

4) Which of the following set of measurements will form a triangle?

   (a) 11 cm, 4 cm, 6 cm   (b) 13 cm, 14 cm, 25 cm   (c) 8 cm, 4 cm, 3 cm   (d) 5 cm, 16 cm, 5 cm

5) In the isosceles $\triangle XYZ$, given XY = YZ then which of the following angles are equal?

   (a) $\angle X$ and $\angle Y$ (b) $\angle Y$ and $\angle Z$ (c) $\angle Z$ and $\angle X$ (d) $\angle X$, $\angle Y$ and $\angle Z$

6) In $\triangle ABC$ and $\triangle DEF$, $\angle B = \angle E$, AB = DE, BC = EF. The two triangles are congruent under _____ axiom

   (a) SSS   (b) AAA   (c) SAS   (d) ASA

7) In a triangle ABC, $\angle A = 40^o$ and AB = AC, then ABC is _____ triangle.

   (a) a right angled   (b) an equilateral   (c) an isosceles   (d) a scalene

8) In the triangle ABC, when $\angle A = 90^o$ the hypotenuse is _____

   (a) AB   (b) BC   (c) CA   (d) None of these

9) In the $\triangle PQR$ the angle included by the sides PQ and PR is

   (a) $\angle P$ (b) $\angle Q$ (c) $\angle R$ (d) None of these

10) In the figure, the value of x° is ----------
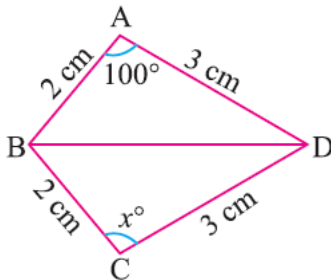
   (a) 80°   (b) 100°   (c) 120°   (d) 200°

Part-B

5 x 2 = 10

11) $\triangle PQR$ is an isosceles triangle with PQ = PR, QP is produced to S and PT bisects the extension angle 2x°. Prove that $\angle Q = x^o$ and hence prove that PT ∥ QR.

12) Prove that the sides opposite to equal angles of a triangle are equal.

13) Which of the following will form the sides of a triangle?

   (i) 23 cm, 17 cm, 8 cm

   (ii) 12 cm, 10 cm, 25 cm

   (iii) 9 cm, 7 cm, 16 cm

14) Construct a quadrilateral PQRS with PQ = 4 cm, QR = 6 cm, PR = 7 cm, PS = 5 cm and < PQS = 40° and find its area.

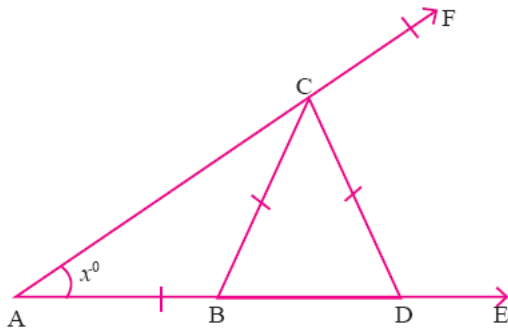15) Construct a parallelogram ABCD with AB = 6 cm, BC = 5.5 cm and < ABC = 80° and calculate its area

Part-C

5 x 3 = 15

16) In $\triangle ABC$, the measure of $\angle A$ is greater than the measure of $\angle B$ by 24º. If exterior angle $\angle C$ is 108º. Find the angles of the $\triangle ABC$.

17) Find the angles x°, y° and z° from the given figure.

18) In the figure, AB = BC = CD, ∠A = x° . Prove that ∠DCF = 3∠x

19) Draw quadrilateral ABCD with the following measurements. Find also its area

AB = 7 cm, BC = 5 cm, AC = 6 cm, CD= 4 cm, and < ACD = 45°..

20) Draw parallelogram ABCD with the following measurements and calculate its area.

AB = 5.5 cm, < DAB = 50° and BD = 7 cm.

****