

**Model Question Paper**

**Geometry - Part I**

10th Standard

**Maths**

Reg.No. : 

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I. Answer all the questions.

II. Use blue pen only.

III. Question number 15 is compulsory.

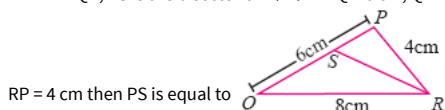
Time : 01:00:00 Hrs

Total Marks : 40

5 x 1 = 5

**Part-A**

- 1) If a straight line intersects the sides AB and AC of a  $\triangle ABC$  at D and E respectively and is parallel to BC, then  $\frac{AE}{AC} =$   
 (a)  $\frac{AD}{DB}$  (b)  $\frac{AD}{AB}$  (c)  $\frac{DE}{BC}$  (d)  $\frac{AD}{EC}$
- 2) In  $\triangle ABC$ , DE is  $\parallel$  to BC, meeting AB and AC at D and E. If AD = 3 cm, DB = 2 cm and AE = 2.7 cm, then AC is equal to  
 (a) 6.5 cm (b) 4.5 cm (c) 3.5 cm (d) 5.5 cm
- 3) In  $\triangle PQR$ , RS is the bisector of  $\angle R$ . If PQ = 6 cm, QR = 8 cm,

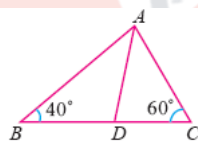


RP = 4 cm then PS is equal to

- (a) 2 cm (b) 4 cm (c) 3 cm (d) 6 cm

4)

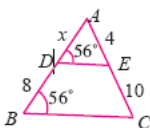
In figure, if  $\frac{AB}{AC} = \frac{BD}{DC}$ ,  $\angle B = 40^\circ$ , and  $\angle C = 60^\circ$  then  $\angle BAD =$



- (a)  $30^\circ$  (b)  $50^\circ$  (c)  $80^\circ$  (d)  $40^\circ$

5)

In the figure, the value x is equal to



- (a)  $4 \cdot 2$  (b)  $3 \cdot 2$  (c)  $0 \cdot 8$  (d)  $0 \cdot 4$

**Part-B**

5 x 2 = 10

6)

In  $\triangle ABC$ ,  $DE \parallel BC$  and  $\frac{AD}{DB} = \frac{2}{3}$ . If  $AE = 3.7$  cm, Find EC.

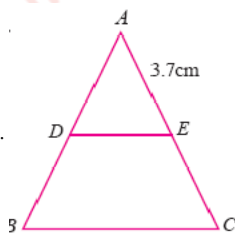


Fig. 6.9

7)

In  $\triangle PQR$ , given that S is a point on PQ such that  $ST \parallel QR$  and  $\frac{PS}{SQ} = \frac{3}{5}$ . If PR = 5.6 cm, then find PT.

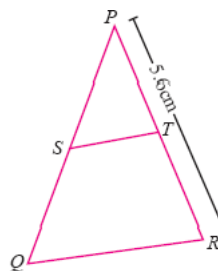


Fig. 6.10

8)

In  $\triangle ABC$ , the internal bisector AD of  $\angle A$  meets the side BC at D. If BD = 2.5 cm, AB = 5 cm and AC = 4.2 cm, then find DC.

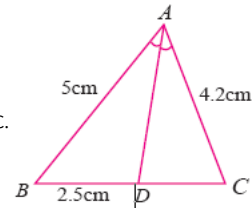


Fig. 6.13

9)

In  $\triangle ABC$ , AE is the external bisector of  $\angle A$  meeting BC produced at E. If AB = 10 cm, AC = 6 cm and BC = 12 cm, then find CE.

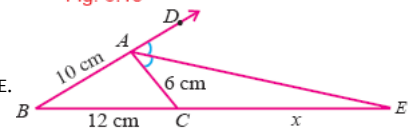


Fig. 6.14

10) In a  $\triangle ABC$ , D and E are points on the sides AB and AC respectively such that  $DE \parallel BC$ . If AD = 6 cm, DB = 9 cm and AE = 8 cm, then find AC.

**Part-C**

5 x 5 = 25

11)

In a  $\triangle ABC$ , D and E are points on AB and AC respectively such that  $\frac{AD}{DB} = \frac{AE}{EC}$  and Prove that  $\triangle ABC$  is isosceles.

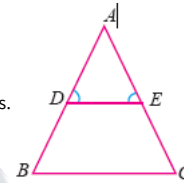


Fig. 6.11

12)

The points D, E and F are taken on the sides AB, BC and CA of a  $\triangle ABC$  respectively, such that  $DE \parallel AC$  and  $FE \parallel AB$ . Prove that  $\frac{AB}{AD} = \frac{AC}{FC}$ .

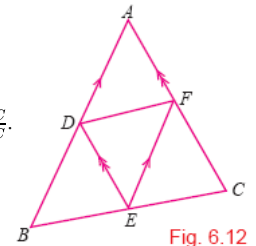


Fig. 6.12

13) D is the midpoint of the side BC of  $\triangle ABC$ . If P and Q are points on AB and on AC such that DP bisects  $\angle BDA$  and DQ bisects  $\angle ADC$  then prove that  $PQ \parallel BC$ .

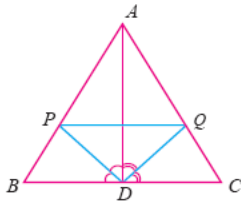
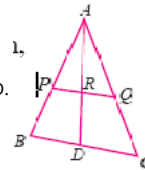


Fig. 6.15

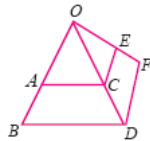
14)

In the figure, AP = 3 cm, AR = 4.5 cm, AQ = 6 cm, AB = 5 cm, and AC = 10 cm. Find the length of AD.



15) a) In the figure,  $AC \parallel BD$  and  $CE \parallel DF$ . If OA = 12 cm, AB = 9 cm,

OC = 8 cm and EF = 4.5 cm, then find FO.



(OR)

b) ABCD is a quadrilateral with AB parallel to CD. A line drawn parallel to AB meets AD at P and BC at Q. Prove that  $\frac{AP}{PD} = \frac{BQ}{QC}$ .

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