Model Question Paper

Geometry - Part II

10th Standard

Maths

Reg.No. : | | | | | | |

I.Answer all the questions.

II.Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 40

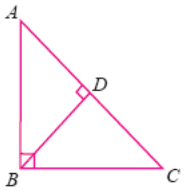
Part-A

5 x 1 = 5

1) In triangles ABC and DEF, $<$B =$<$E, $<$C =$<$F, then

(a) $\frac{AB}{DE} = \frac{CA}{EF}$ (b) $\frac{BC}{EF} = \frac{AB}{FD}$ (c) $\frac{AB}{DE} = \frac{BC}{EF}$ (d) $\frac{CA}{FD} = \frac{AB}{EF}$

2) From the given figure, identify the wrong statement.



(a) $\triangle ADB \sim \triangle ABC$ (b) $\triangle ABD \sim \triangle ABC$ (c) $\triangle BDC \sim \triangle ABC$ (d) $\triangle ADB \sim \triangle BDC$

3) If a vertical stick 12 m long casts a shadow 8 m long on the ground and at the same time a tower casts a shadow 40 m long on the ground, then the height of the tower is

(a) 40 m (b) 50 m (c) 75 m (d) 60 m

4) The sides of two similar triangles are in the ratio 2:3, then their areas are in the ratio

(a) 9:4 (b) 4:9 (c) 2:3 (d) 3:2

5) Triangles ABC and DEF are similar. If their areas are 100cm^2 and 49cm^2 respectively and BC is 8.2 cm then EF =

(a) 5.47 cm (b) 5.74 cm (c) 6.47 cm (d) 6.74 cm

Part-B

5 x 2 = 10

6) E and F are points on the sides PQ and PR respectively, of a $\triangle PQR$. For each of the following cases, verify $EF \parallel QR$. PE = 3.9 cm, EQ = 3 cm, PF = 3.6 cm and FR = 2.4 cm.

7) In a $\triangle ABC$, AD is the internal bisector of $\angle A$ meeting BC at D. If BD = 2 cm, AB = 5 cm, DC = 3 cm find AC.

8) Check whether AD is the bisector of < A of $\triangle$ ABC in each of the following. AB = 4 cm, AC = 6 cm, BD = 1.6 cm, and CD = 2.4 cm.

9) In $\triangle PQR$, $AB \parallel QR$. If AB is 3 cm, PB is 2cm and PR is 6 cm, then find the length of QR.

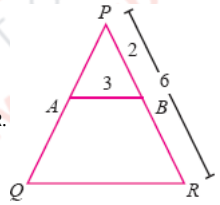


Fig. 6.21

10) Let PQ be a tangent to a circle at A and AB be a chord. Let C be a point on the circle such that $\angle$BAC = 54° and $\angle$BAQ = 62°. Find $\angle$ABC.

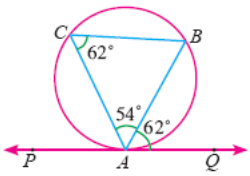
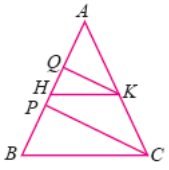


Fig. 6.33

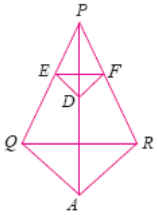
Part-C

5 x 5 = 25

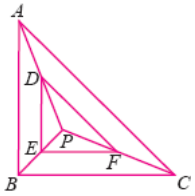
11) In the figure, $PC \parallel QK$ and $BC \parallel HK$ If AQ = 6 cm, QH = 4 cm, HP = 5 cm, KC = 18cm, then find AK and PB.



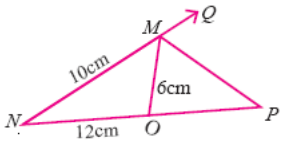
12) In the figure, $DE \parallel AQ$ and $DF \parallel AR$. Prove that $EF \parallel QR$.



13) In the figure $DE \parallel AB \quad and \quad DF \parallel AC$. Prove that $EF \parallel BC$.



14) In a $\triangle MNO$, MP is the external bisector of $\angle M$ meeting NO produced at P. If MN = 10 cm, MO = 6 cm, NO = 12 cm, then find OP.



15) In a quadrilateral ABCD, the bisectors of **AC at E.**
Prove that $\frac{AB}{BC} = \frac{AD}{DC}$.

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