



Assignment

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Date: __ / __ / __

Name: _____

Max Marks: 20

Section- A (Two Marks Each)

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|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1 | E and F are points on the sides PQ and PR respectively of a ΔPQR . For each of the following cases, state whether $EF \parallel QR$: 1. $PE = 3.9$ cm, $EQ = 3$ cm, $PF = 3.6$ cm and $FR = 2.4$ cm 2. $PE = 4$ cm, $QE = 4.5$ cm, $PF = 8$ cm and $RF = 9$ cm 3. $PQ = 1.28$ cm, $PR = 2.56$ cm, $PE = 0.18$ cm and $PF = 0.36$ cm | |
| 2 | In the Given figure, $DE \parallel OQ$ and $DF \parallel OR$. Show that $EF \parallel QR$ | |
| 3 | Prove that the line joining the mid-points of any two sides of a triangle is parallel to the third side. | |
| 4 | A girl of height 90 cm is walking away from the base of a lamp-post at a speed of 1.2 m/s. If the lamp is 3.6 m above the ground, find the length of her shadow after 4 seconds | |
| 5 | In Figure, CM and RN are respectively the medians of ΔABC and ΔPQR . If $\Delta ABC \sim \Delta PQR$, prove that : (i) $\Delta AMC \sim \Delta PNR$ (ii) $CM/RN = AB/PQ$ (iii) $\Delta CMB \sim \Delta RNQ$ | |
| 6 | Diagonals AC and BD of a trapezium ABCD with $AB \parallel DC$ intersect each other at the point O. Using a similarity criterion for two triangles, show that: $OA/OB = OC/OD$ | |
| 7 | E is a point on the side AD produced of a parallelogram ABCD and BE intersects CD at F. Show that $\Delta ABE \sim \Delta CFB$. | |
| 8 | D is a point on the side BC of a triangle ABC such that $\angle ADC = \angle BAC$. Show that $CA^2 = CB \cdot CD$. | |
| 9 | D, E and F are respectively the mid-points of sides AB, BC and CA of ΔABC . Find the ratio of the areas of ΔDEF and ΔABC . | |
| 10 | Prove that the area of an equilateral triangle described on one side of a square is equal to half the area of the equilateral triangle described on one of its diagonals. | |