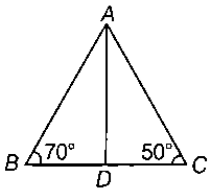
CH 6 TRIANGLES – WORKSHEET

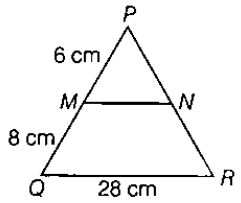
Multiple Choice Questions (1 mark each)

1. In ΔABC, $\frac{AB}{AC}=\frac{BD}{DC}$, $\angle B=70°$ and $\angle C=50°$. Then, $\angle BAD=?$



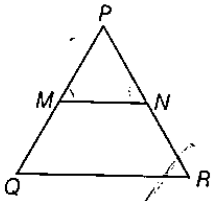
(a) 30° (b) 40° (c) 50° (d) 45°

2. In the figure, if $MN \| QR$, $PM=6$ cm, $QM=8$ cm and $QR=28$ cm, then MN is equal to



(a) 20 cm (b) 32 cm (c) 12 cm (d) 16 cm

3. In the given figure $\angle M=\angle N$ and $\frac{PM}{MQ}=\frac{PN}{NR}$, then ΔPQR is

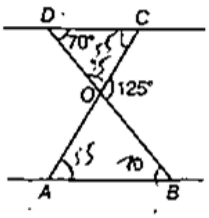


(a) equilateral triangle (b) isosceles triangle
(c) right angled triangle (d) None of these

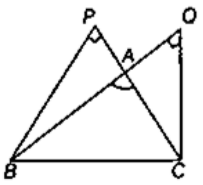
Short Answer Type (I) Questions (2 marks each)

4. In the given figure, $\Delta ODC \sim \Delta OBA$, $\angle BOC=125°$ and $\angle CDO=70°$.

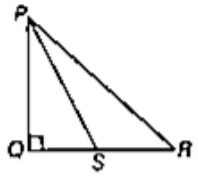
Find $\angle DOC$, $\angle DCO$ and $\angle OAB$.



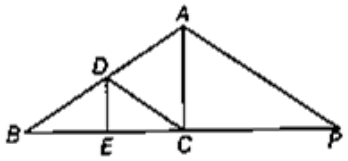
5. In ΔABC, $\angle A$ is obtuse angle, $PB \perp PC$ and $QC \perp QB$, then find the value of $AB \times AQ$.



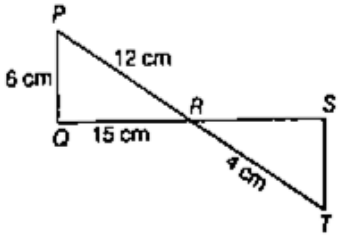
6. PQR is right angled triangle, having $\angle Q = 90°$. If $QS = SR$, then show that $PR^2 = 4PS^2 - 3PQ^2$.



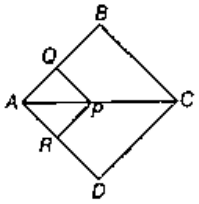
7. In the given figure, $DE \| AC$ and $DC \| AP$. Prove that $\frac{BE}{EC} = \frac{BC}{CP}$.



8. In the given figure $\angle P = \angle T$, $PQ = 6$ cm, $QR = 15$ cm, $PR = 12$ cm and $RT = 4$ cm, then find the value of RS.



9. In the given figure, $PQ \| BC$ and $PR \| CD$.



Prove that

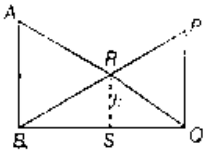
(i) $\frac{AR}{AD} = \frac{AQ}{AB}$.

(ii) $\frac{QB}{AQ} = \frac{RD}{AR}$.

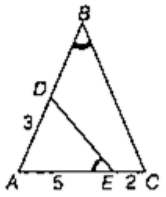
Short Answer Type (II) Questions

(3 marks each)

10. If two coconut trees 15 m and 25 m high are 70 m apart, then find the height of the point of intersection of the line joining the top of each tree to the foot of the opposite tree.



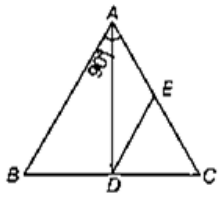
11. In the given figure, $\angle ABC = \angle AED$.



(i) Explain, why ΔABC and ΔAED are similar?

(ii) Given, $AD = 3$ cm, $AE = 5$ cm and $EC = 2$cm. Calculate BD.

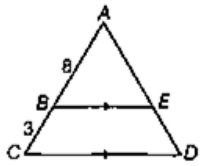
12. In the given figure $\angle BAC = 90°$, AD is its bisector. If $DE \perp AC$, then prove that $DE \times (AB + AC) = AB \times AC$.



Long Answer Type Questions

(5 marks each)

13. In the given figure, $AB = 8$ cm, $BC = 3$ cm and BE is parallel to CD.

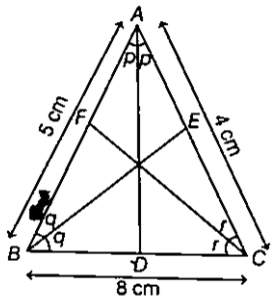


(i) Find

(a) $\frac{BE}{CD}$. (b) $\frac{\text{Area of } \Delta ABE}{\text{Area of quadrilateral } BCDE}$.

(ii) What is the special name given to the quadrilateral $BCDE$?

14. In the given figure, D, E and F are the points on sides BC, CA and AB, respectively, such that AD bisects $\angle A$, BE bisects $\angle B$ and CF bisects $\angle C$. If $AB = 5$ cm, $BC = 8$ cm and $CA = 4$ cm, then determine AF, CE and BD.



Answers

1. (a) **2.** (c) **3.** (b) **4.** $\angle DOC = \angle DCO = \angle OAB = 55°$

5. $AC \times AP$ **8.** 5 cm **10.** $9\frac{21}{56}$ m

11. (ii) $BD = 8\frac{2}{3}$ cm **13.** (i) (a) $\frac{8}{11}$ (b) $\frac{64}{57}$ (ii) Trapezium

14. $AF = \frac{5}{3}$ cm, $CE = \frac{32}{13}$ cm and $BD = \frac{40}{9}$ cm

For Solution scan QR code