

INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS: X SUBJECT: MATHEMATICS DATE: 19-08-2023

LESSON:6 – TRIANGLES

Level 1:

1. In $\triangle ABC$, D and E are the points on the sides AB and AC respectively such that $DE \parallel BC$

a) If $AD = 2.5$ cm, $BD = 3.0$ cm and $AE = 3.75$ cm, Find the length of AC

b) IF $AD = 4$ cm, $AE = 8$ cm, $DB = x - 4$ and $EC = 3x - 19$, Find x?

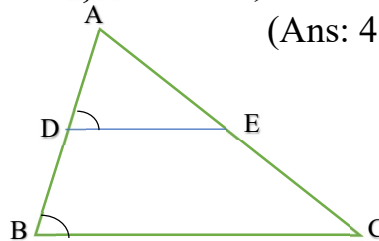
(Ans: a) 8.25 cm b) 11cm)

2. In $\triangle ABC$, D and E are the points on the sides AB and AC respectively.

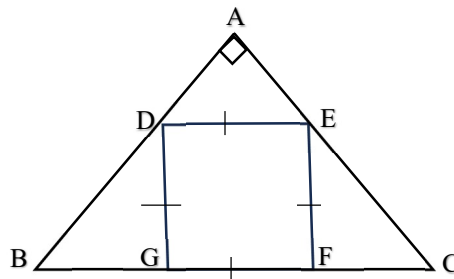
$AB = 12$ cm, $AD = 8$ cm, $AE = 12$ cm, $AC = 18$ cm. Show that $DE \parallel BC$

3. In the figure, If $AD = 6$ cm, $DB = 9$ cm, $AE = 8$ cm, $EC = 12$ cm and $\angle ADE = 48^\circ$. Find $\angle ABC$

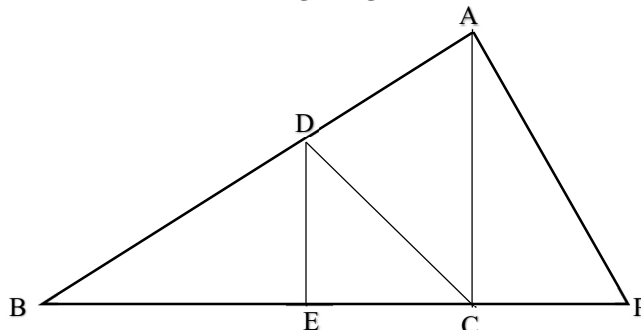
(Ans: 48°)



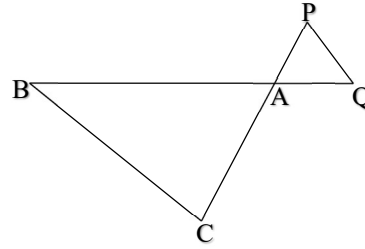
4. In the given figure, DEFG is a square and $\angle BAC = 90^\circ$. Show that $FG^2 = BG \times FC$



5. In the fig, $DE \parallel AC$ and $DC \parallel AP$, Prove that $\frac{BE}{EC} = \frac{BC}{CP}$

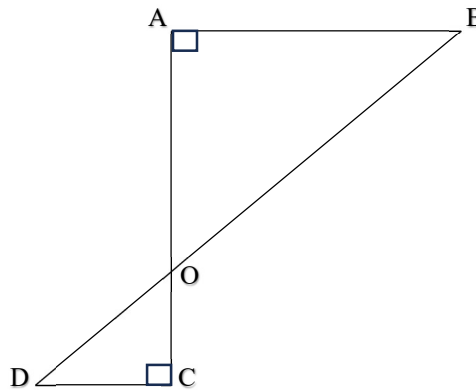


6. In the figure $\triangle ACB \sim \triangle APQ$. If $BC = 8\text{cm}$, $PQ = 4\text{cm}$, $BA = 6.5\text{cm}$, $AP = 2.8\text{cm}$, Find CA and AQ ?



(Ans: $CA=5.6\text{cm}$, $AQ = 3.25\text{cm}$)

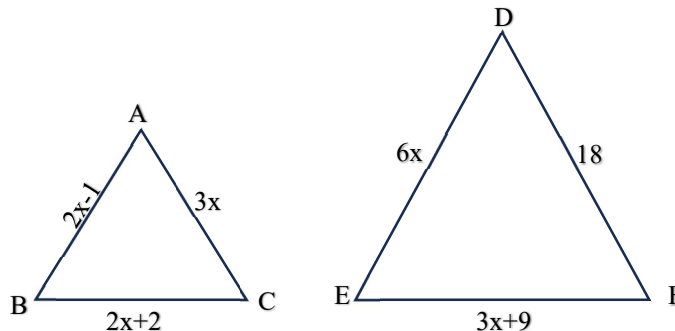
7. In the figure $\angle A = \angle C$, then Prove that $\triangle AOB \sim \triangle COD$



8. Two triangles BAC and BDC , right angled at A and D respectively, are drawn on the same base BC and on the same side of BC . If AC and DB intersect at P , Prove that $AP \times PC = DP \times PB$.
9. It is given that $\triangle ABC \sim \triangle EDF$ such that $AB = 5\text{cm}$, $AC = 7\text{cm}$, $DF = 15\text{cm}$ and $DE = 12\text{cm}$, Find the lengths of the remaining sides of the triangles.

(Ans: $BC = 6.25\text{cm}$ and $EF = 16.8\text{cm}$)

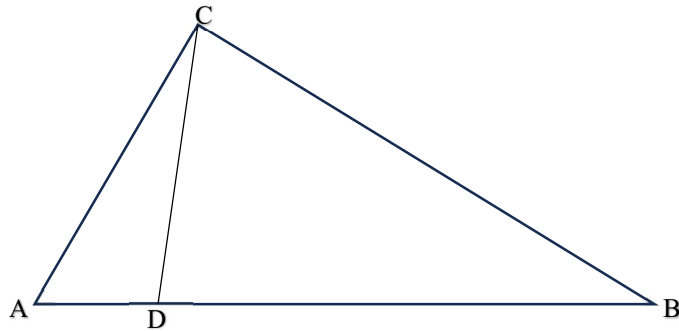
10. In the figure If $\triangle ABC \sim \triangle DEF$ and their sides of the lengths (in cm) as marked along their sides, then find the lengths of the sides of each triangle.



(Ans: $AB= 9\text{cm}$, $BC = 12\text{cm}$, $AC = 15\text{cm}$, $EF = 24\text{cm}$, $DF= 30\text{cm}$)

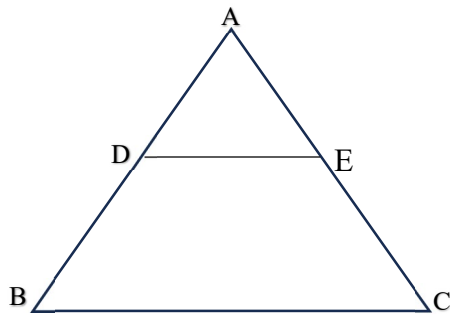
Level 2:

11. In the figure $\angle ACB = \angle CDA$, $AC = 8\text{cm}$ and $AD = 3\text{cm}$, Find BD ?



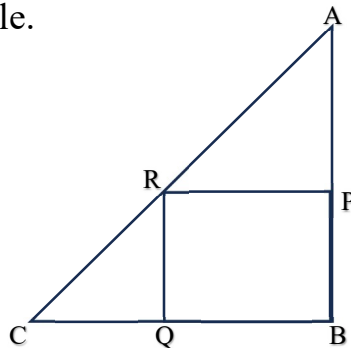
(Ans: $\frac{55}{3}$)

12. In $\triangle ABC$, $DE \parallel BC$, with D on AB and E on AC . If $\frac{AD}{DB} = \frac{2}{3}$, find $\frac{BC}{DE}$



(Ans: $\frac{5}{2}$)

13. Legs (sides other than the hypotenuse) of a right triangle are of lengths 16cm and 8cm . Find the lengths of side of the largest square that can be inscribed in the triangle.



(Ans: $\frac{16}{3}$)

14. A 15meters high tower casts a shadow of 24meters long at a certain time and at the same time a telephone pole casts a shadow of 16meters high. Find the height of the telephone pole

(Ans: 10m)
