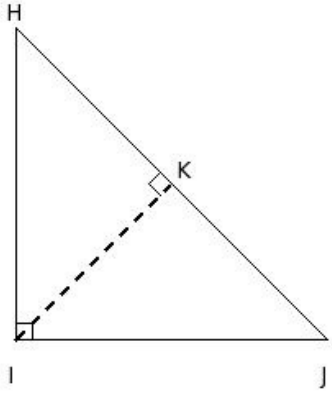
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Similarity of Triangles

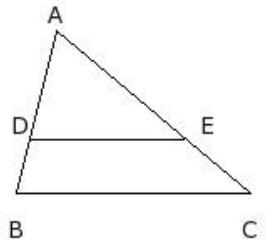
Grade : ICSE Grade X

1. In the given figure, △HIJ is isosceles right-angled at I and IK ⊥ JH. ∠H =



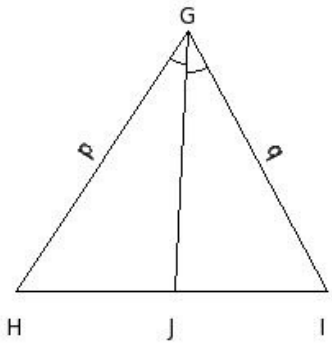
(i) ∠J (ii) ∠I (iii) ∠M (iv) ∠L (v) ∠K

2. In the given figure, $DE \parallel BC$.
If $AD = 6.87$ cm, $AB = 10.3$ cm and $AC = 15.6$ cm, find AE



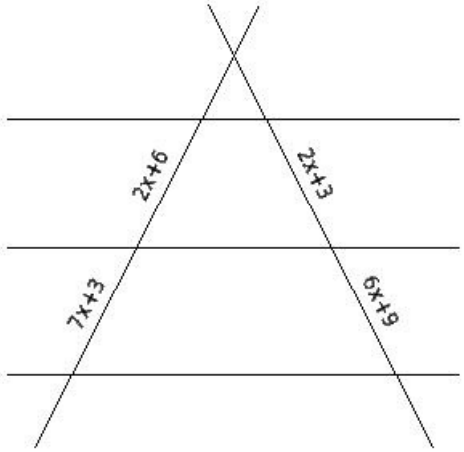
(i) 9.40 cm (ii) 12.40 cm (iii) 11.40 cm (iv) 10.40 cm (v) 8.40 cm

3. In the given figure, given ∠JGH = ∠IGJ, p = 9.76 cm, q = 9.24 cm and HI = 19 cm, find HJ =



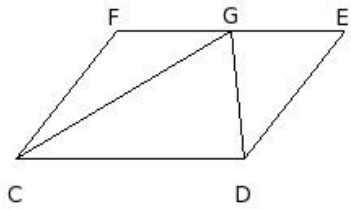
(i) 10.76 cm (ii) 7.76 cm (iii) 8.76 cm (iv) 11.76 cm (v) 9.76 cm

4. From the given figure and values, find x



(i) $((\frac{-1}{2}),17)$ (ii) $(15,(\frac{-3}{2}))$ (iii) $(17,(\frac{-3}{2}))$ (iv) $(15,-2)$ (v) $(16,(\frac{-5}{4}))$

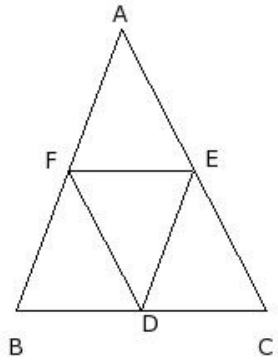
5. In the given figure, the parallelogram CDEF and the triangle △GCD are on the same bases and between the same parallels.
The area of the △GCD is x sq.cm. The area of the parallelogram is



(i) $\frac{5}{4}$ the area of the triangle (ii) thrice the area of the triangle (iii) twice the area of the triangle

(iv) $\frac{3}{2}$ the area of the triangle (v) $\frac{4}{3}$ the area of the triangle

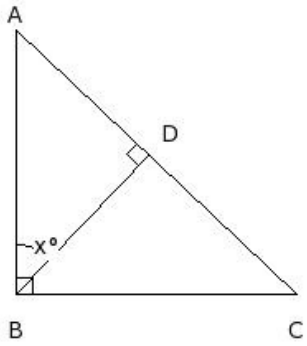
6. In the given figure, the area of the △ABC is x sq.cm. D,E,F are the mid-points of the sides BC , CA and AB respectively. The area of the △DEF is



(i) $\frac{2}{3}$ of area of △ABC (ii) $\frac{1}{4}$ of area of △ABC (iii) $\frac{1}{2}$ of area of △ABC (iv) $\frac{1}{3}$ of area of △ABC

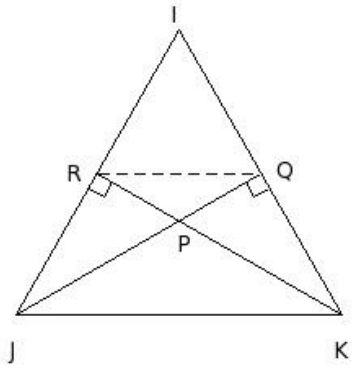
(v) $\frac{3}{4}$ of area of △ABC

7. In the given figure, ∠DAB = 47.2°, find the value of x =



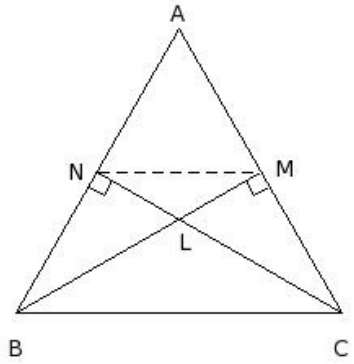
(i) 40.80° (ii) 42.80° (iii) 41.80° (iv) 44.80° (v) 43.80°

8. In the given figure, the altitudes QJ and KR of △IJK meet at P. ∠KQP =



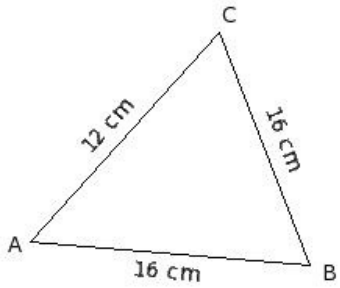
(i) ∠RJP (ii) ∠PRJ (iii) ∠PKQ (iv) ∠JPR (v) ∠QPK

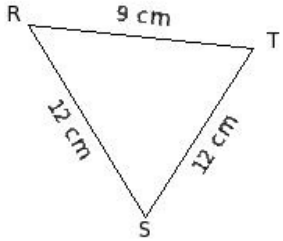
9. In the given figure, the altitudes MB and CN of △ABC meet at L. △NBL ~



(i) △MCL (ii) △LNM (iii) △NBC (iv) △MCB (v) △LBC

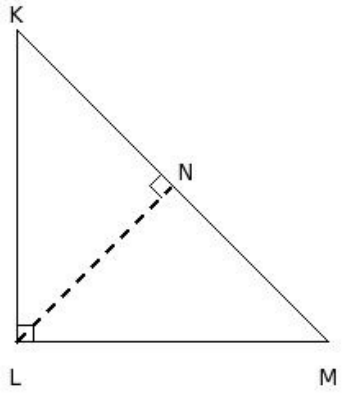
10. Identify the property by which the two given triangles are similar





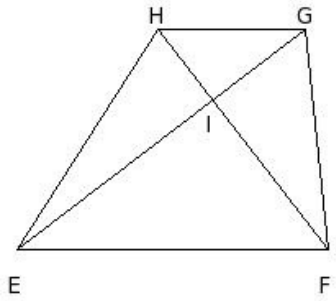
(i) SSS Similarity (ii) SAS Similarity (iii) AAA Similarity (iv) not similar

11. In the given figure, △KLM is isosceles right-angled at L and LN ⊥ MK. ∠MNL =



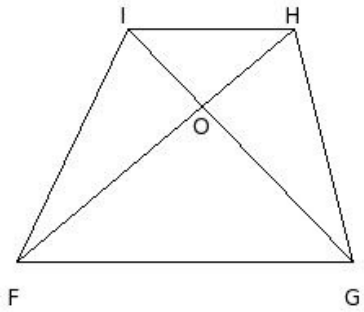
(i) ∠NKL (ii) ∠NLM (iii) ∠KLN (iv) ∠LMN (v) ∠KLM

12. EFGH is a cyclic trapezium. Diagonals FH and EG intersect at I. If HE = 16 cm, find FG



(i) 18 cm (ii) 16 cm (iii) 14 cm (iv) 17 cm (v) 15 cm

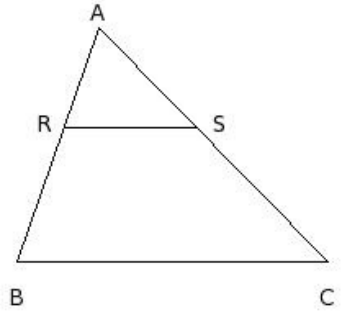
13. In the given figure, FGHI is a trapezium where OF = 15 cm , OG = 15 cm and OI = 5 cm . Find OH =



(i) 7 cm (ii) 3 cm (iii) 4 cm (iv) 5 cm (v) 6 cm

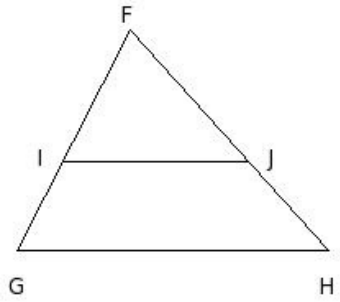
In the given figure, △ABC, RS ∥ BC such that

14. area of $\triangle ARS$ = area of RSCB. Find $\frac{AR}{AB}$



(i) 1 (ii) $\frac{1}{2}\sqrt{5}$ (iii) $\frac{1}{2}\sqrt{2}$ (iv) $\frac{1}{2}\frac{4}{\sqrt{2}}$ (v) $\frac{1}{2}\sqrt{\frac{1}{2}}$

15. In the given △FGH, IJ ∥ GH. If FI : IG = 9 cm : 6 cm and FH = 18 cm, FJ =

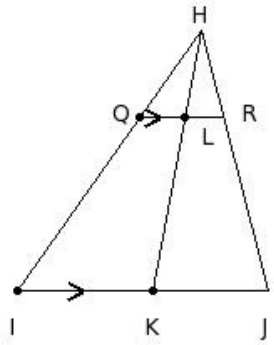


(i) 9.80 cm (ii) 11.80 cm (iii) 10.80 cm (iv) 8.80 cm (v) 12.80 cm

16. If the ratio of the bases of two triangles is B : C and the ratio of the corresponding heights is D : E , the ratio of their areas in the same order is

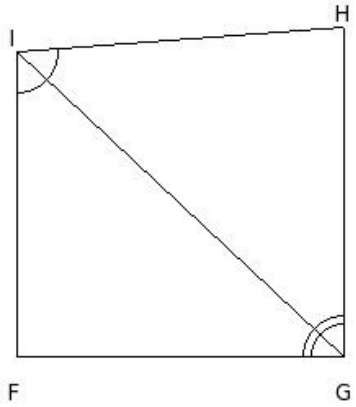
(i) BC : DE (ii) DE : BC (iii) CD : BE (iv) BE : CD (v) BD : CE

17. In the given figure, QR ∥ IJ , and median HK bisects QR. △HQL ~



(i) △HKJ (ii) △IJH (iii) △HIJ (iv) △HIK (v) △HLR

18. In the given figure, GI is the angular bisector of ∠G & ∠I
FG = 20 cm, GH = 20 cm and HI = 20 cm. Find IF



(i) 19.00 cm (ii) 21.00 cm (iii) 18.00 cm (iv) 22.00 cm (v) 20.00 cm

19. In the given figure, △BCD is right-angled at C. Also, CE ⊥ BD. Which of the following are true?

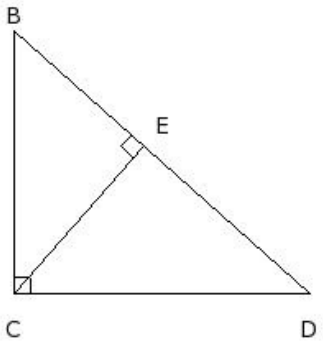
a) $BC^2 = BD.BE$

b) $CD^2 = BD.BE$

c) $CE^2 = BE.ED$

d) $BC^2 = DB.DE$

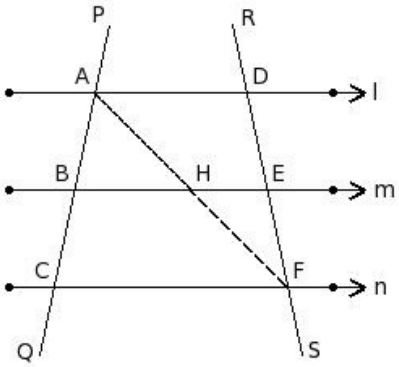
e) $CD^2 = DB.DE$



(i) {d,c} (ii) {a,c,e} (iii) {b,a,c} (iv) {b,a} (v) {b,d,e}

In the given figure, three lines l , m and n are such that l ∥ m ∥ n.

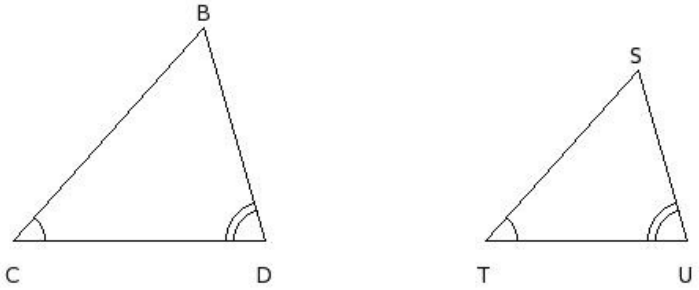
20. Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
∠ABH =



(i) ∠FEH (ii) ∠DAF (iii) ∠FDA (iv) ∠ACF (v) ∠EHF

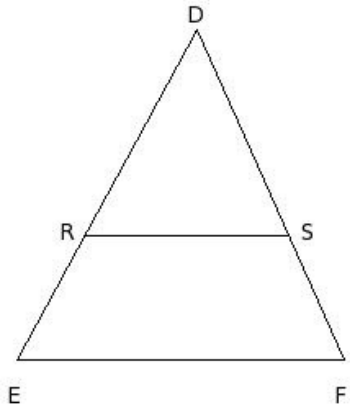
In the given figure, △BCD and △STU are such that

21. ∠C = ∠T and ∠D = ∠U.
Identify the property by which the two triangles are similar



(i) SSS Similarity (ii) AAA Similarity (iii) not similar (iv) SAS Similarity

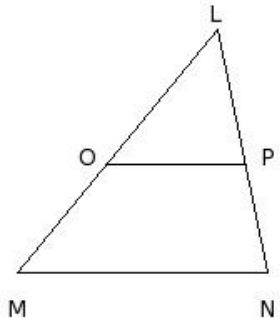
22. In the given figure, RS ∥ EF and DF = 22 cm, RS = 12 cm and EF = 20 cm, find DS



(i) 15.2 cm (ii) 13.2 cm (iii) 11.2 cm (iv) 14.2 cm (v) 12.2 cm

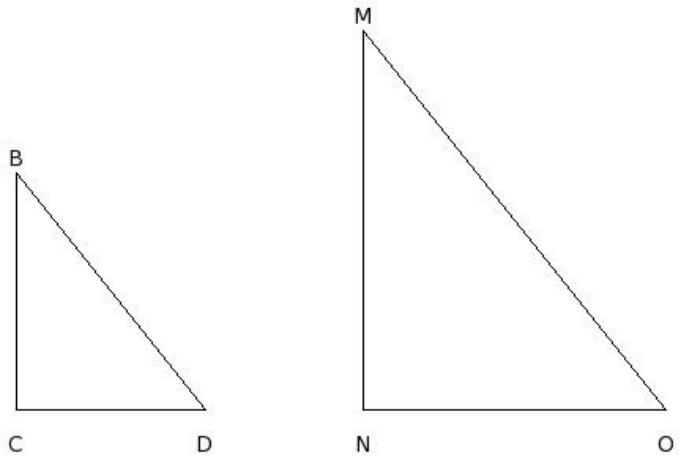
23. In the given figure, O and P are points on the sides LM and LN respectively of △LMN.For which of the following cases, OP ∥ MN

a) LM = 19 cm, OM = 8.44 cm, LP = 10.33 cm and LN = 15 cm
b) LO = 10.56 cm, OM = 8.44 cm, LP = 8.33 cm and PN = 6.67 cm
c) LM = 19 cm, OM = 8.44 cm, LN = 15 cm and LP = 8.33 cm
d) LM = 19 cm, LO = 12.56 cm, LN = 15 cm and PN = 6.67 cm



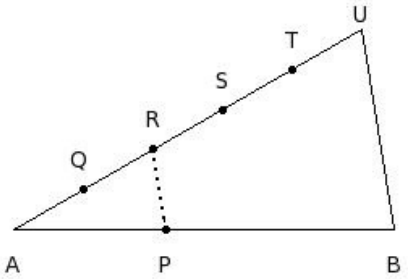
(i) {b,c} (ii) {a,b} (iii) {a,c,b} (iv) {a,d,b} (v) {d,c}

24. A vertical stick 15 m long casts a shadow of 12 m long on the ground.
At the same time, a tower casts the shadow 96 m long on the ground.
Find the height of the tower.



(i) 119 m (ii) 121 m (iii) 118 m (iv) 122 m (v) 120 m

25. In the given figure, if A, Q, R, S, T, U are equidistant and RP ∥ UB and AB = 24 cm and AP = 10 cm. Find PB



(i) 14.00 cm (ii) 16.00 cm (iii) 12.00 cm (iv) 13.00 cm (v) 15.00 cm

Assignment Key

1) (i)	2) (iv)	3) (v)	4) (ii)	5) (iii)	6) (ii)
7) (ii)	8) (ii)	9) (i)	10) (i)	11) (v)	12) (ii)
13) (iv)	14) (iii)	15) (iii)	16) (v)	17) (iv)	18) (v)
19) (ii)	20) (iv)	21) (ii)	22) (ii)	23) (i)	24) (v)
25) (i)					