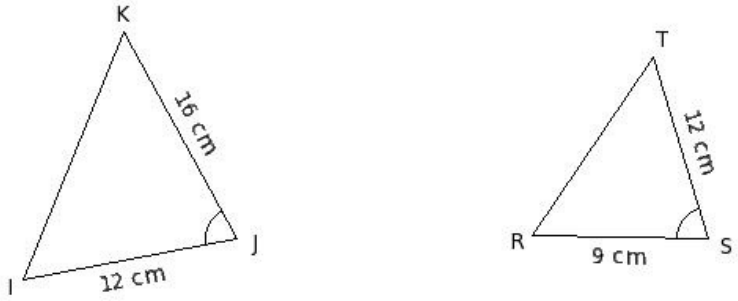
1. Identify the property by which the two given triangles are similar

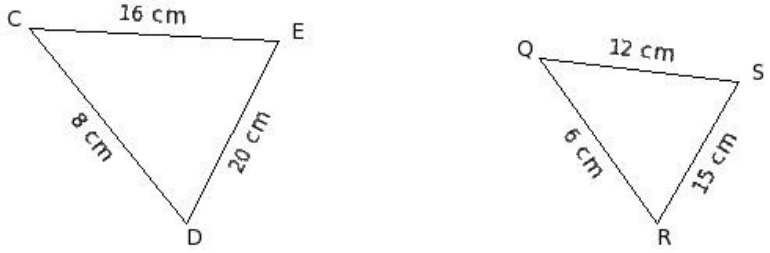


(i) not similar (ii) AAA Similarity (iii) SSS Similarity (iv) SAS Similarity

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

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

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

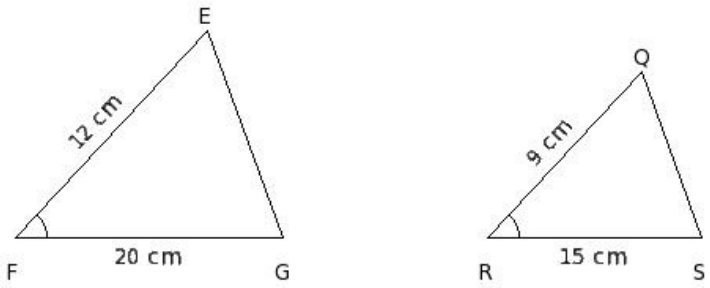


(i) SAS Similarity (ii) AAA Similarity (iii) SSS Similarity (iv) not similar

In the given figure, △EFG and △QRS are such that

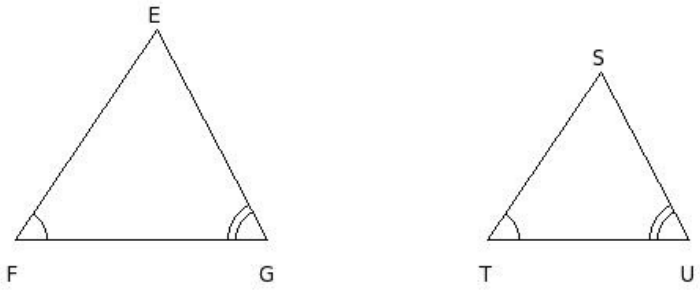
4. $\angle F = \angle R$ and $\frac{EF}{QR} = \frac{FG}{RS}$.

Identify the property by which the two triangles are similar



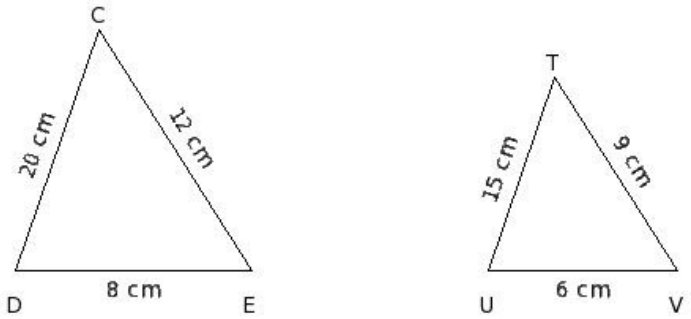
(i) SAS Similarity (ii) AAA Similarity (iii) not similar (iv) SSS Similarity

5. In the given figure, $\triangle EFG$ and $\triangle STU$ are such that
$\angle F = \angle T$ and $\angle G = \angle U$.
Identify the property by which the two triangles are similar



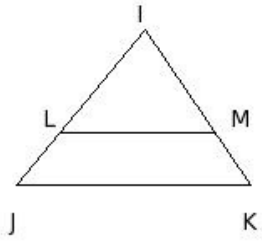
(i) not similar (ii) SSS Similarity (iii) AAA Similarity (iv) SAS Similarity

6. In the given figure, $\triangle CDE$ and $\triangle TUV$ are such that
$\frac{CD}{TU} = \frac{DE}{UV} = \frac{EC}{VT}$.
Identify the property by which the two triangles are similar



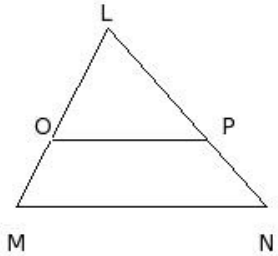
(i) SSS Similarity (ii) SAS Similarity (iii) not similar (iv) AAA Similarity

7. In the given figure, $LM \parallel JK$. If $\frac{IL}{LJ} = \frac{2}{1}$ and $IK = 11.6$ cm, find IM



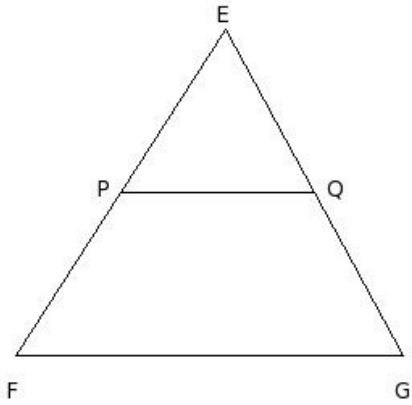
(i) 6.73 cm (ii) 8.73 cm (iii) 9.73 cm (iv) 5.73 cm (v) 7.73 cm

8. In the given figure, $OP \parallel MN$.
If $LO = 8$ cm, $LM = 12.8$ cm and $LN = 14.8$ cm, find LP



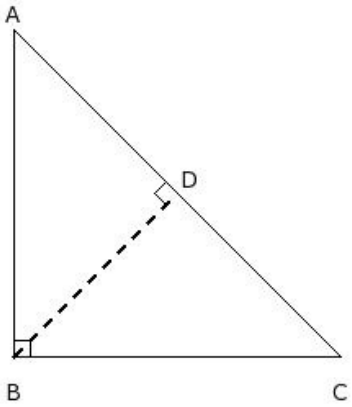
(i) 8.25 cm (ii) 9.25 cm (iii) 11.25 cm (iv) 7.25 cm (v) 10.25 cm

9. In the given figure, PQ ∥ FG and EQ = 13.8 cm, PQ = 14.4 cm and FG = 24 cm, find EG



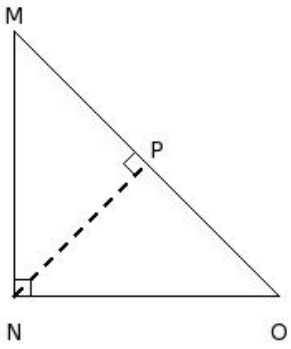
(i) 25.0 cm (ii) 21.0 cm (iii) 22.0 cm (iv) 24.0 cm (v) 23.0 cm

10. In the given figure, △ABC is isosceles right-angled at B and BD ⊥ CA. ∠B =



(i) ∠D (ii) ∠C (iii) ∠E (iv) ∠A (v) ∠F

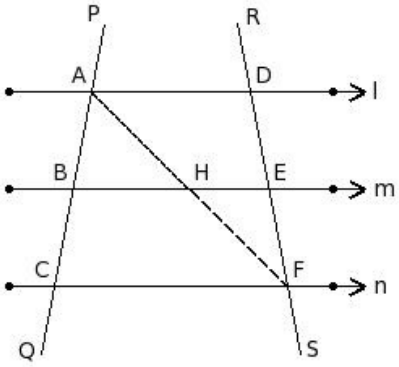
11. In the given figure, △MNO is isosceles right-angled at N and NP ⊥ OM. ∠OPN =



(i) ∠NPM (ii) ∠PNO (iii) ∠PMN (iv) ∠NOP (v) ∠MNP

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

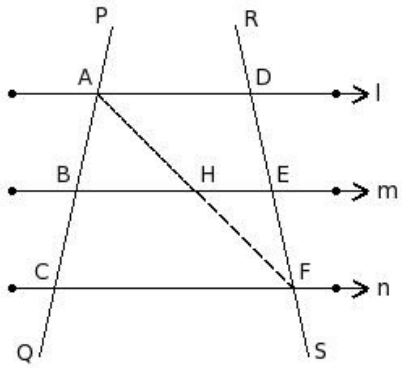
12. Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
△ABH ~



(i) △ACF (ii) △DCF (iii) △FDA (iv) △FEH (v) △DAE

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

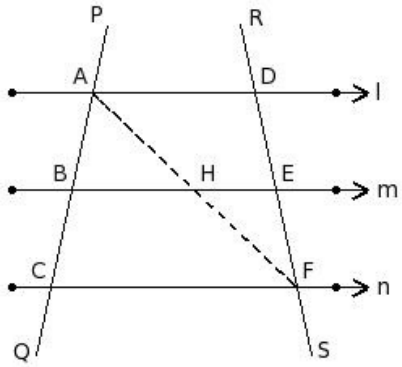
13. Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
∠HAB =



(i) ∠FAC (ii) ∠FEH (iii) ∠HFE (iv) ∠AFD (v) ∠FDA

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

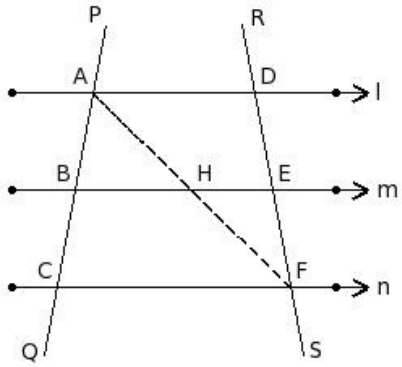
14. Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
∠FEH =



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

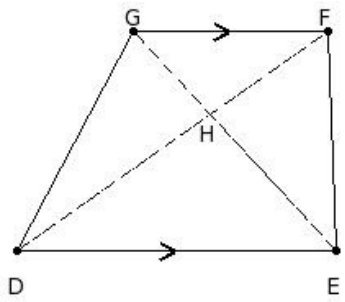
In the given figure, three lines l , m and n are such that l ∥ m ∥ n.

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



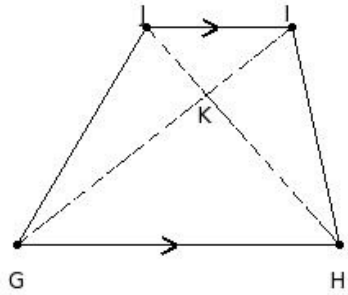
(i) ∠BHA (ii) ∠HFE (iii) ∠DAF (iv) ∠EHF (v) ∠AFD

16. In the given figure, DEFG is a trapezium in which DE ∥ FG and the diagonals EG and DF intersect at H. If $HD = (2x+11)$ cm, $EH = (2x+5)$ cm, $HF = (x+13)$ cm and $GH = (x+9)$ cm, find the value of x



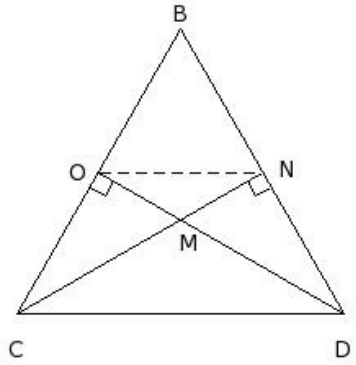
(i) (19,19) (ii) (19,17) (iii) (17,17) (iv) (17,16) (v) (18,18)

17. In the given figure, GHIJ is a trapezium in which GH ∥ IJ and the diagonals HJ and GI intersect at K. △KIJ ~



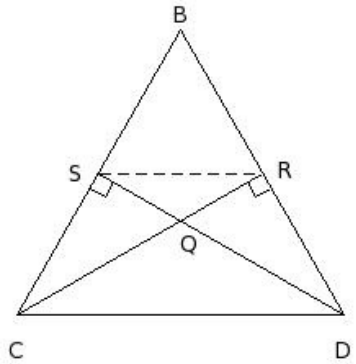
(i) △KHI (ii) △HIJ (iii) △KGH (iv) △KJG (v) △JGH

18. In the given figure, the altitudes NC and DO of △BCD meet at M. △MCD ~



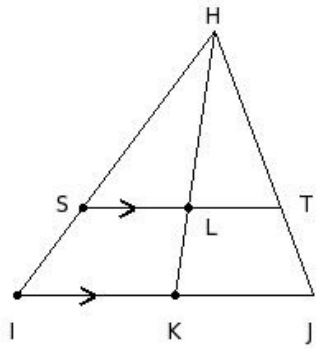
(i) △OCM (ii) △OCD (iii) △NDC (iv) △MON (v) △NDM

19. In the given figure, the altitudes RC and DS of △BCD meet at Q. ∠DQC =



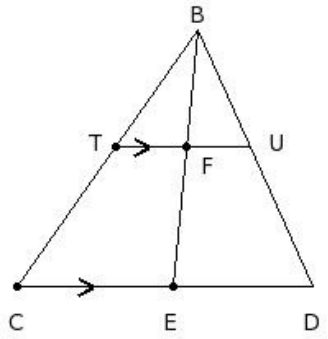
(i) ∠QRS (ii) ∠CDQ (iii) ∠RSQ (iv) ∠QCD (v) ∠SQR

20. In the given figure, ST ∥ IJ , and median HK bisects ST.
If HI = 20 cm, HK = 20 cm and HL = 13.33 cm, HS =



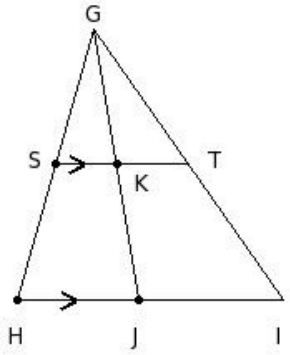
(i) 12.33 cm (ii) 15.33 cm (iii) 14.33 cm (iv) 11.33 cm (v) 13.33 cm

21. In the given figure, TU ∥ CD , and median BE bisects TU.
If BE = 15.7 cm, BD = 17 cm and BF = 7.14 cm, BU =



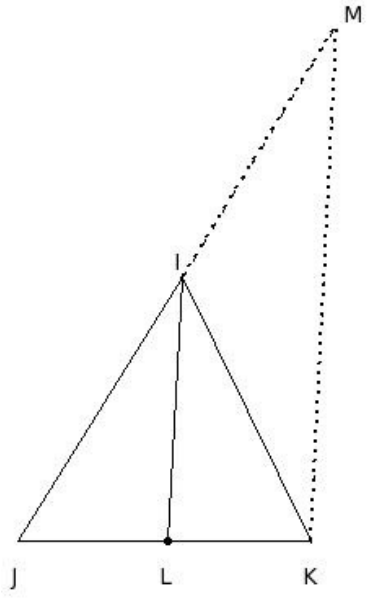
(i) 6.73 cm (ii) 5.73 cm (iii) 7.73 cm (iv) 8.73 cm (v) 9.73 cm

22. In the given figure, ST ∥ HI , and median GJ bisects ST. △GJI ~



(i) △GHI (ii) △HIG (iii) △GHJ (iv) △GSK (v) △GKT

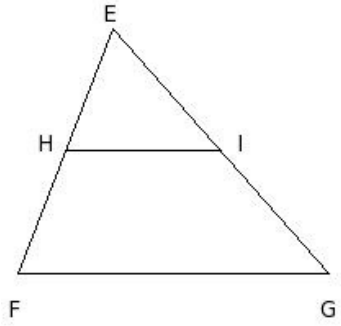
23. In the given figure, △IJK is a triangle in which IL is the internal bisector of ∠I and KM ∥ LI meeting JI produced at M . ∠IKM =



(i) ∠ILK (ii) ∠LKI (iii) ∠MIK (iv) ∠KMI (v) ∠JLI

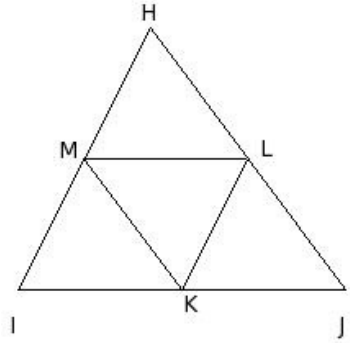
24. In the given figure, H and I are points on the sides EF and EG respectively of △EFG.For which of the following cases, HI ∥ FG

a) EH = 8 cm, HF = 8 cm, EI = 10 cm and IG = 10 cm
b) EF = 16 cm, HF = 8 cm, EG = 20 cm and EI = 10 cm
c) EF = 16 cm, EH = 10 cm, EG = 20 cm and IG = 10 cm
d) EF = 16 cm, HF = 8 cm, EI = 12 cm and EG = 20 cm



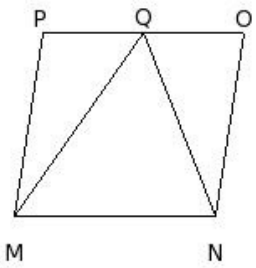
(i) {c,d,a} (ii) {c,b,a} (iii) {d,b} (iv) {c,a} (v) {a,b}

25. In the given figure, the area of the △HIJ is x sq.cm. K,L,M are the mid-points of the sides IJ , JH and HI respectively. The area of the △KLM is



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

26. In the given figure, the parallelogram MNOP and the triangle △QMN are on the same bases and between the same parallels.
The area of the △QMN is x sq.cm. The area of the parallelogram is



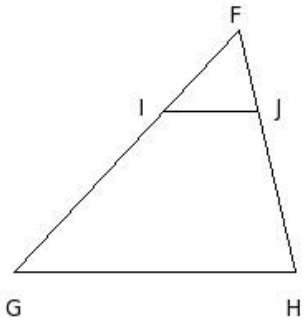
(i) $\frac{4}{3}$ the area of the triangle (ii) $\frac{3}{2}$ the area of the triangle (iii) thrice the area of the triangle

(iv) twice the area of the triangle (v) $\frac{5}{4}$ the area of the triangle

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

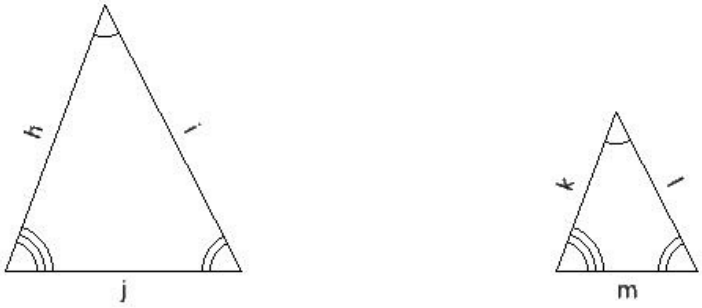
(i) EF : CD (ii) CE : DF (iii) DE : CF (iv) CD : EF (v) CF : DE

28. In the given △FGH, IJ ∥ GH. If FI : IG = 6.67 cm : 13.33 cm and FH = 15 cm, FJ =



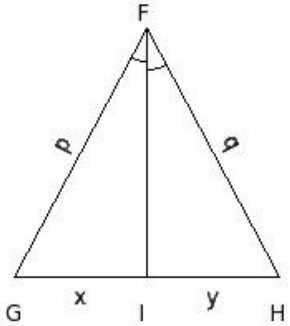
(i) 5.00 cm (ii) 3.00 cm (iii) 7.00 cm (iv) 4.00 cm (v) 6.00 cm

29. In the given two similar triangles, if h = 18 cm, i = 19 cm, j = 15 cm, k = 10.8 cm, find l



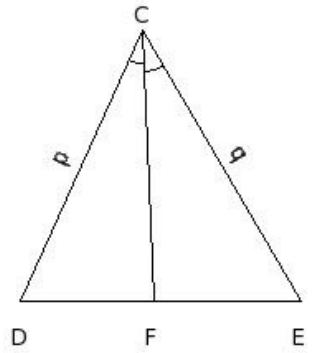
(i) 11.40 cm (ii) 9.40 cm (iii) 13.40 cm (iv) 10.40 cm (v) 12.40 cm

30. In the given figure, given ∠IFG = ∠HFI, x : y = 8 cm : 8 cm and q = 17 cm, find p =



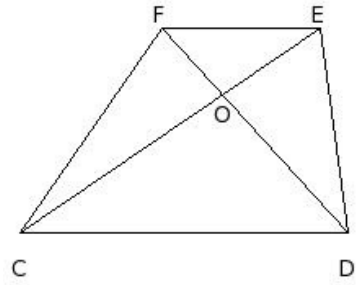
(i) 18.00 cm (ii) 17.00 cm (iii) 16.00 cm (iv) 15.00 cm (v) 19.00 cm

31. In the given figure, given ∠FCD = ∠ECF, p = 8.27 cm, q = 8.73 cm and DE = 17 cm, find FE =



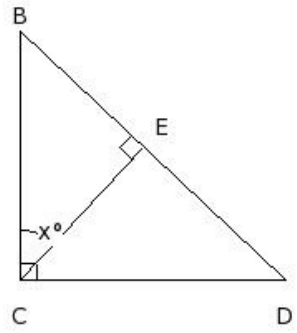
(i) 10.73 cm (ii) 6.73 cm (iii) 7.73 cm (iv) 9.73 cm (v) 8.73 cm

32. In the given figure, CDEF is a trapezium where OC = 13 cm , OD = 13 cm and OE = 4 cm . Find OF =



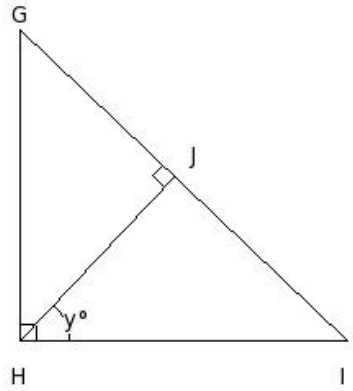
(i) 4 cm (ii) 5 cm (iii) 2 cm (iv) 3 cm (v) 6 cm

33. In the given figure, ∠EBC = 46.59°, find the value of x =



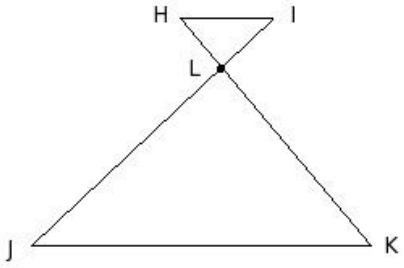
(i) 45.41° (ii) 42.41° (iii) 43.41° (iv) 44.41° (v) 41.41°

34. In the given figure, ∠HIJ = 43.89°, find the value of y =



(i) 48.11° (ii) 45.11° (iii) 47.11° (iv) 46.11° (v) 44.11°

35. In the given figure, if HI ∥ JK then



(i) △LIH ~ △LKJ (ii) △HIL ~ △KJL (iii) △HIL ~ △LJK (iv) △LHI ~ △LJK (v) △HIL ~ △LKJ

36. In the given figure, △EFG is right-angled at F. Also, FH ⊥ EG. Which of the following are true?

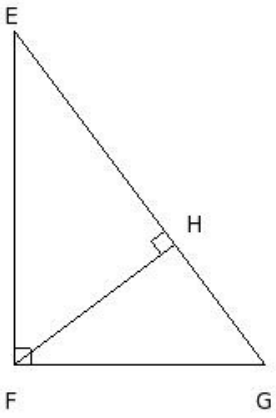
a) $FH^2 = EH \cdot HG$

b) $EF^2 = GE \cdot GH$

c) $FG^2 = GE \cdot GH$

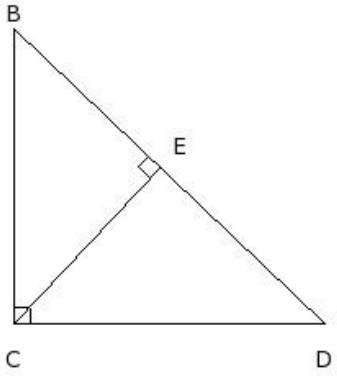
d) $FG^2 = EG \cdot EH$

e) $EF^2 = EG \cdot EH$



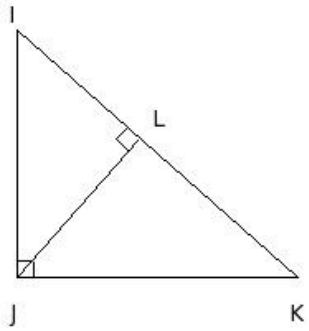
(i) {b,a,c} (ii) {a,c,e} (iii) {b,a} (iv) {b,d,e} (v) {d,c}

37. In the given figure, △BCD is right-angled at C. Also, CE ⊥ BD. If BC = 18 cm, CE = 13.07 cm, then find CD.



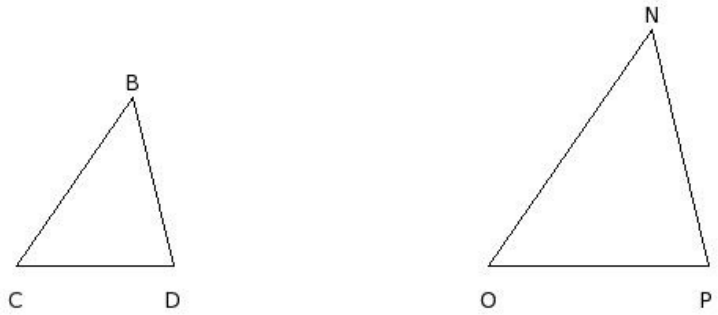
(i) 17.00 cm (ii) 19.00 cm (iii) 21.00 cm (iv) 20.00 cm (v) 18.00 cm

38. In the given figure, △IJK is right-angled at J. Also, JL ⊥ IK. If IL = 9.9 cm, LK = 12.8 cm, then find JL.



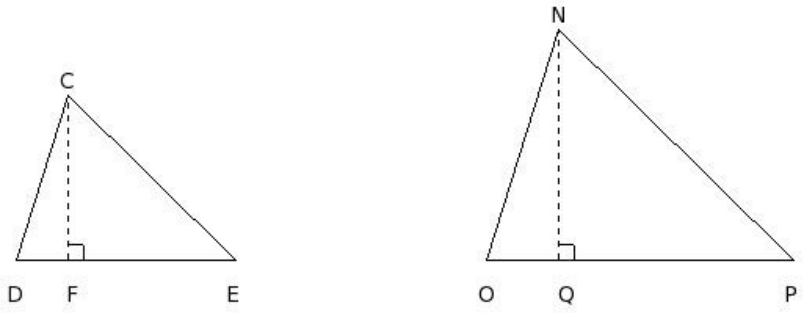
(i) 9.26 cm (ii) 12.26 cm (iii) 10.26 cm (iv) 13.26 cm (v) 11.26 cm

39. In the given figure, △BCD ~ △NOP and BC = 13 cm, NO = 18.2 cm.
If the area of the △BCD = 53.44 sq.cm, find the area of the △NOP



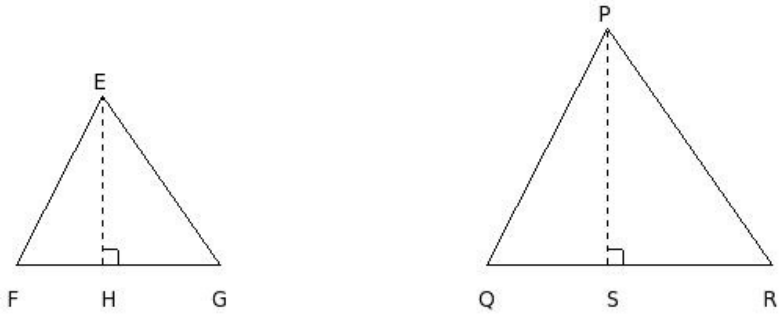
(i) 103.75 sq.cm (ii) 104.75 sq.cm (iii) 106.75 sq.cm (iv) 102.75 sq.cm (v) 105.75 sq.cm

40. In the given figure, △CDE ~ △NOP and DE = 14 cm , OP = 19.6 cm and
CF = 10.5 cm, find the area of the △NOP



(i) 144.03 sq.cm (ii) 142.03 sq.cm (iii) 146.03 sq.cm (iv) 143.03 sq.cm (v) 145.03 sq.cm

41. In the given figure, △EFG & △PQR are similar triangles. If the ratio of the heights EH : PS = 11 : 15, then the ratio of their areas is



(i) 121 sq.cm : 223 sq.cm (ii) 122 sq.cm : 225 sq.cm (iii) 120 sq.cm : 225 sq.cm (iv) 121 sq.cm : 227 sq.cm

(v) 121 sq.cm : 225 sq.cm

42. In the given figure, points D , E and F are the mid-points of sides BC, CA and AB of △ABC. Which of the following are true?

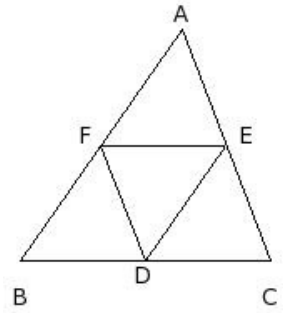
a) Area of $\triangle ABC = \frac{1}{3}$ area of $\triangle DEF$

b) Area of trapezium BCEF is $\frac{1}{4}$ the area of $\triangle ABC$

c) Area of △ABC = 4 times area of △DEF

d) Area of trapezium BCEF is thrice the area of △AFE

e) All four small triangles have equal areas



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

43. In the given figure, points I , J and K are the mid-points of sides GH, HF and FG of △FGH. Which of the following are true?

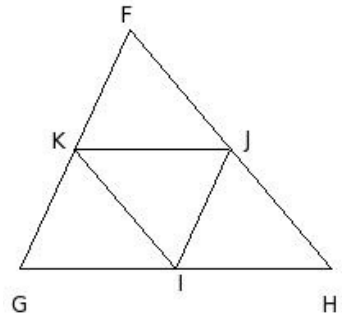
a) △KGI ~ △FGH

b) △FKJ ~ △FGH

c) △IJK ~ △FGH

d) △IKJ ~ △FGH

e) △JIH ~ △FGH

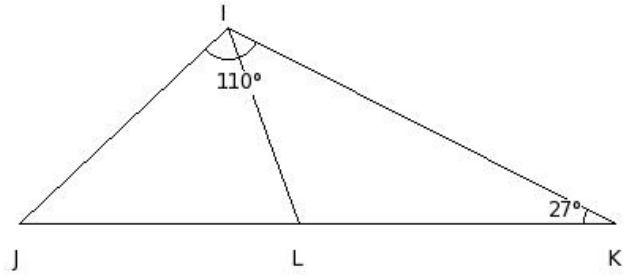


(i) {d,e,a} (ii) {d,c} (iii) {d,b} (iv) {a,b,c,e} (v) {d,a}

44. The perimeters of two similar triangles are 26 cm and 20 cm respectively. If one side of the first triangle is 12 cm, find the length of the corresponding side of the second triangle.

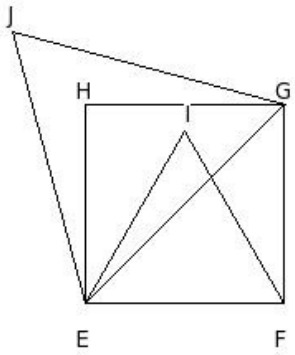
(i) 11.23 cm (ii) 8.23 cm (iii) 9.23 cm (iv) 7.23 cm (v) 10.23 cm

45. In the given figure, L is a point on side JK of △IJK such that ∠KIJ = ∠ILK = 110° , ∠LKI = 27°. Find ∠KIL



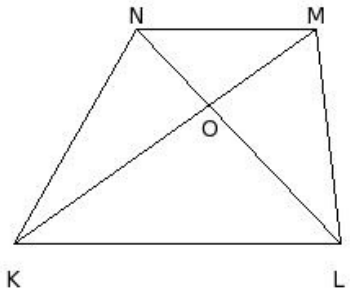
(i) 45° (ii) 44° (iii) 43° (iv) 42° (v) 41°

46. EFGH is a square and △EFI is an equilateral triangle. Also, △EGJ is an equilateral triangle. If area of △EFI is 'a' sq.units, then the area of △EGJ is



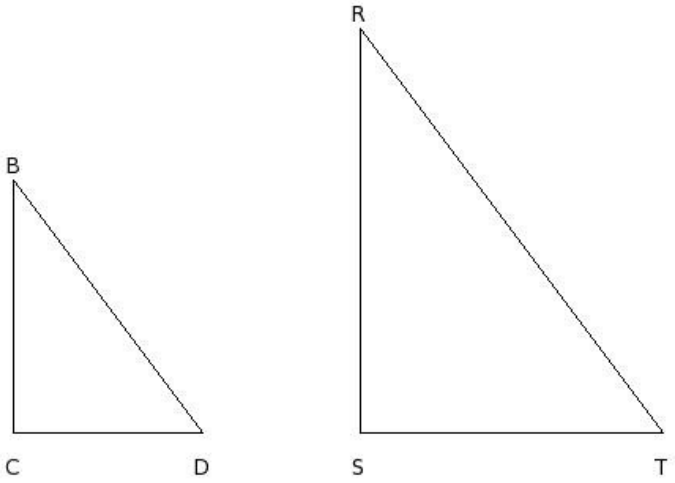
(i) 2a sq.units (ii) $\sqrt{3}$ a sq.units (iii) $\frac{1}{2}\sqrt{3}$ a sq.units (iv) a^2 sq.units (v) $\frac{1}{2}$ a sq.units

47. KLMN is a cyclic trapezium. Diagonals LN and KM intersect at O. If NK = 15 cm, find LM



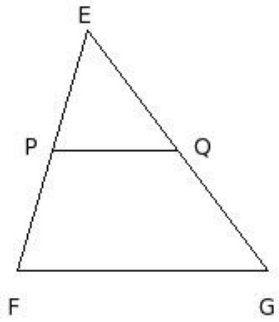
(i) 14 cm (ii) 13 cm (iii) 15 cm (iv) 17 cm (v) 16 cm

A vertical stick 16 m long casts a shadow of 12 m long on the ground.
48. At the same time, a tower casts the shadow 96 m long on the ground.
Find the height of the tower.



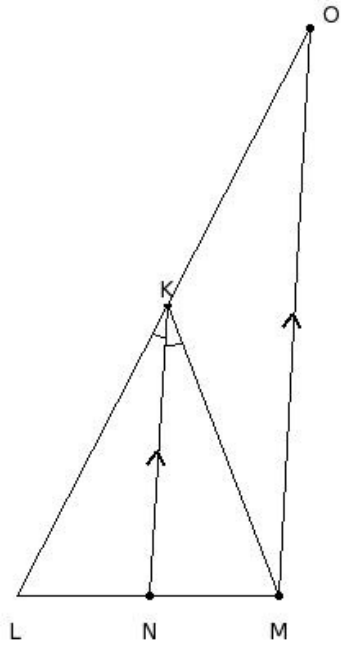
(i) 128 m (ii) 127 m (iii) 126 m (iv) 130 m (v) 129 m

49. In the given figure, $\triangle EFG$, PQ ∥ FG such that area of $\triangle EPQ$ = area of PQGF. Find $\frac{EP}{EF}$



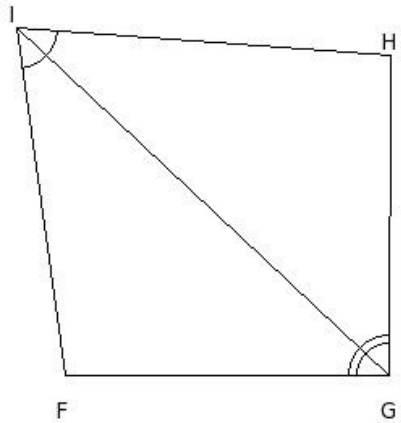
(i) $\frac{1}{2}\sqrt{4}$ (ii) 1 (iii) $\frac{1}{2}\frac{4}{\sqrt{2}}$ (iv) $\frac{1}{2}\sqrt{2}$ (v) $\frac{1}{2}\sqrt{-1}$

50. In the given figure, ∠NKL = ∠MKN and KN ∥ OM and KL = 20 cm, LN = 8 cm and NM = 8 cm. Find KO



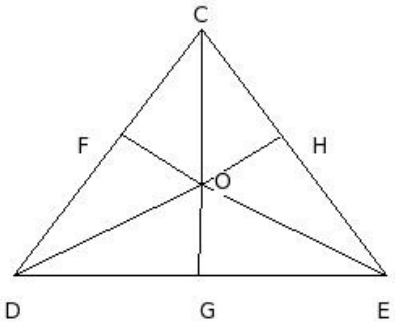
(i) 22.00 cm (ii) 20.00 cm (iii) 18.00 cm (iv) 21.00 cm (v) 19.00 cm

51. In the given figure, GI is the angular bisector of ∠G & ∠I
FG = 20 cm, GH = 20 cm and HI = 23 cm. Find IF



(i) 22.00 cm (ii) 21.00 cm (iii) 23.00 cm (iv) 24.00 cm (v) 25.00 cm

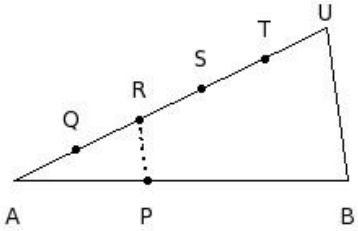
52. In the given figure, CDE is a triangle and 'O' is a point inside △CDE. The angular bisector of ∠DOC, ∠EOD & ∠COE meet CD, DE & EC at F, G & H respectively . Then



(i) CF . DG . EH = FD . GE . HC (ii) CF . DG . EH = OC . OD . OE (iii) CF . DG . EH = FG . GH . HF

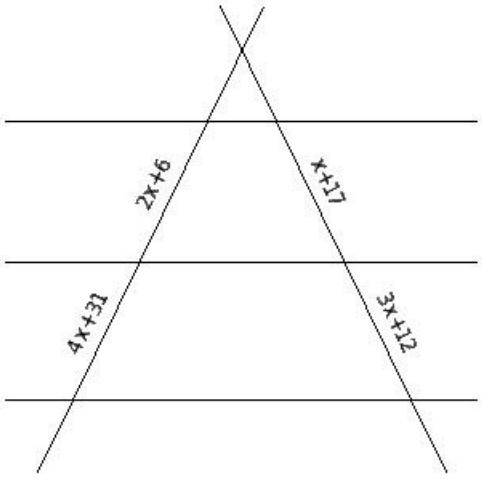
(iv) CF . DG . EH = CD . DE . EC (v) CF . DG . EH = OF . OG . OH

53. In the given figure, if A, Q, R, S, T, U are equidistant and RP ∥ UB and AB = 21 cm. Find AP



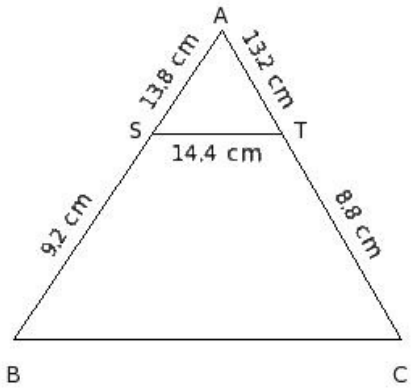
(i) 8.40 cm (ii) 6.40 cm (iii) 9.40 cm (iv) 10.40 cm (v) 7.40 cm

54. From the given figure and values, find x



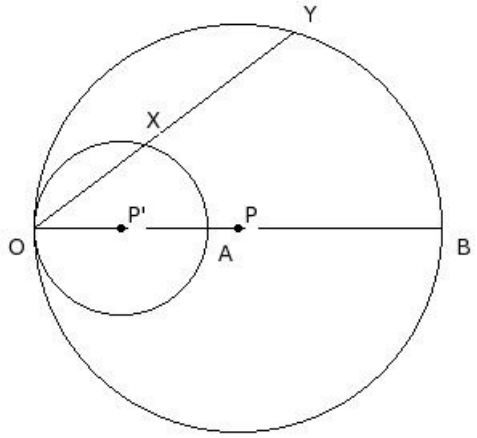
(i) $(37,(\frac{-11}{2}))$ (ii) $((\frac{-13}{2}),34)$ (iii) $((\frac{-11}{2}),35)$ (iv) $((\frac{-25}{4}),36)$ (v) $((\frac{-13}{2}),35)$

55. If the measures are as shown in the given figure, find BC



(i) 26.0 cm (ii) 23.0 cm (iii) 24.0 cm (iv) 25.0 cm (v) 22.0 cm

56. In the given figure, the two circles touch each other internally.
Diameter OB passes through the centre of the smaller circle.
$OX = 9$ cm, $OY = 20$ cm and radius of the inner circle is 5.4 cm.
Find the radius of the outer circle.



(i) 13.00 cm (ii) 12.00 cm (iii) 11.00 cm (iv) 10.00 cm (v) 14.00 cm

Assignment Key

1) (iv)	2) (iv)	3) (iii)	4) (i)	5) (iii)	6) (i)
7) (v)	8) (ii)	9) (v)	10) (i)	11) (i)	12) (i)
13) (i)	14) (v)	15) (i)	16) (iii)	17) (iii)	18) (iv)
19) (v)	20) (v)	21) (iii)	22) (v)	23) (iv)	24) (v)
25) (v)	26) (iv)	27) (ii)	28) (i)	29) (i)	30) (ii)
31) (v)	32) (i)	33) (iii)	34) (iv)	35) (ii)	36) (ii)
37) (ii)	38) (v)	39) (ii)	40) (i)	41) (v)	42) (iv)
43) (iv)	44) (iii)	45) (iii)	46) (i)	47) (iii)	48) (i)
49) (iv)	50) (ii)	51) (iii)	52) (i)	53) (i)	54) (v)
55) (iii)	56) (ii)				