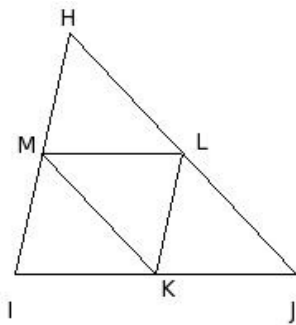1. The ratio of the bases of two triangles ABC and DEF is $9:6$.
   If the triangles are equal in area, then the ratio of their heights is

   (i) $9:4$ (ii) $9:9$ (iii) $8:6$ (iv) $6:9$ (v) $10:6$

2. In the given figure, points K , L and M are the mid-points of sides IJ, JH and HI of $\triangle$HIJ. Which of the following are true?

   a) $\triangle$KML ~ $\triangle$HIJ
   b) $\triangle$KLM ~ $\triangle$HIJ
   c) $\triangle$HML ~ $\triangle$HIJ
   d) $\triangle$LKJ ~ $\triangle$HIJ
   e) $\triangle$MIK ~ $\triangle$HIJ
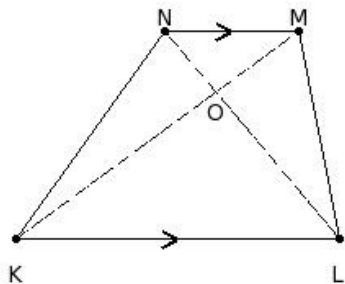

   (i) {a,b}   (ii) {a,c}   (iii) {a,e,b}   (iv) {b,c,d,e}   (v) {a,d}

3. In the given figure, $\angle$JKL = 44.07°, find the value of y =
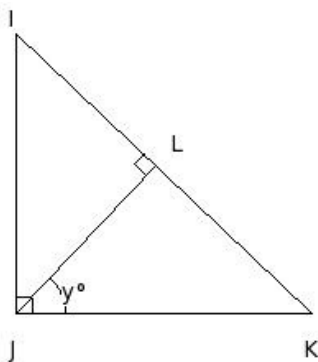
   (i) 43.93°   (ii) 47.93°   (iii) 45.93°   (iv) 44.93° (v) 46.93°

4. In the given figure, KLMN is a trapezium in which
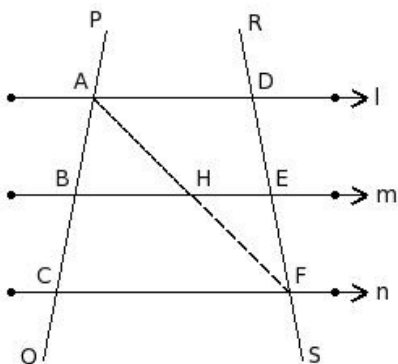KL ∥ MN and the diagonals LN and KM intersect at O.
If OK = $(3x+2)$ cm, LO = $(2x+13)$ cm, OM = $(x+10)$ cm and
NO = $(x+1)$ cm, find the value of x

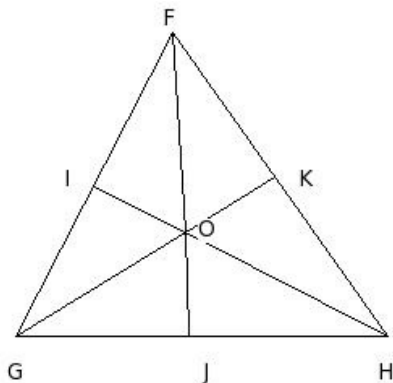(i) $(-2,34)$ (ii) $(33,-3)$ (iii) $(32,-5)$ (iv) $(34,-4)$ (v) $(32,-4)$

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5. In the given figure, three lines l , m and n are such that l ∥ m ∥ n.
Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
∠ABH =

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

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6. In the given figure, FGH is a triangle and 'O' is a point inside △FGH. The angular bisector of ∠GOF, ∠HOG & ∠FOH meet FG, GH & HF at I, J & K respectively . Then

(i) FI . GJ . HK = IG . JH . KF (ii) FI . GJ . HK = OI . OJ . OK (iii) FI . GJ . HK = OF . OG . OH

(iv) FI . GJ . HK = IJ . JK . KI (v) FI . GJ . HK = FG . GH . HF

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7. In the given figure, G is a point on side EF of △DEF such that ∠FDE = ∠DGF = 103° , ∠GFD = 29°. Find ∠FDG
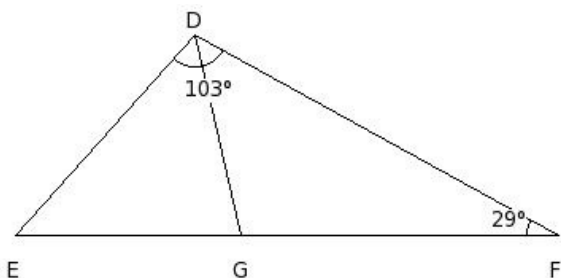
(i) 46° (ii) 50° (iii) 47° (iv) 48° (v) 49°

8. In the given △HIJ, KL ‖ IJ. If HK : KI = 8.5 cm : 8.5 cm and HJ = 16 cm, LJ =

H

K   L

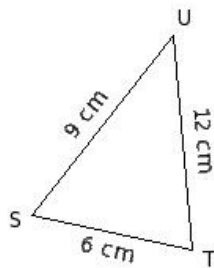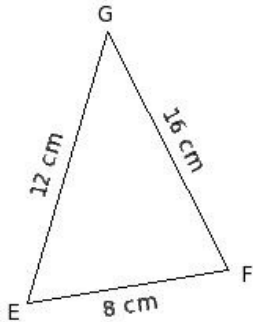I   J
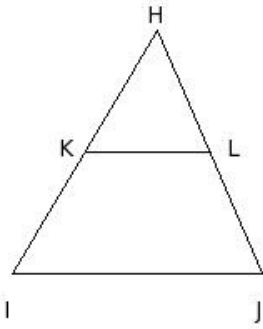
(i) 7.00 cm (ii) 6.00 cm (iii) 8.00 cm (iv) 9.00 cm (v) 10.00 cm

9. In the given figure, PQ ‖ IJ , and median HK bisects PQ.
   If HI = 16 cm, HP = 8.73 cm and HL = 8.73 cm, HK =

H

P   Q
     L

I   K   J
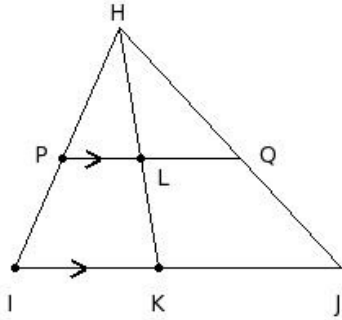
(i) 15.00 cm (ii) 14.00 cm (iii) 18.00 cm (iv) 17.00 cm (v) 16.00 cm

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

G

12 cm   16 cm

E   F
    8 cm

U

9 cm   12 cm

S

6 cm   T

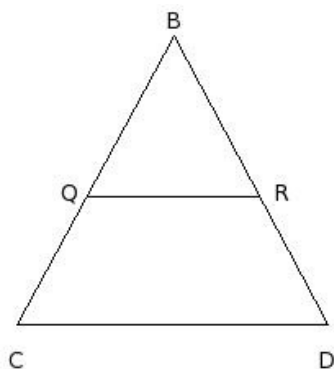(i) not similar (ii) SAS Similarity (iii) SSS Similarity (iv) AAA Similarity

11. In the given figure, points N , O and P are the mid-points of sides LM, MK and KL of $\triangle$KLM. Which of the following are true?

a) Area of $\triangle$KLM $= \dfrac{1}{3}$ area of $\triangle$NOP

b) All four small triangles have equal areas

c) Area of trapezium LMOP is thrice the area of $\triangle$KPO

d) Area of $\triangle$KLM = 4 times area of $\triangle$NOP

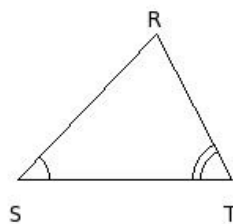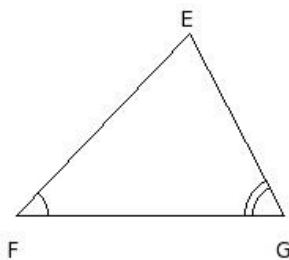e) Area of trapezium LMOP is $\dfrac{1}{4}$ the area of $\triangle$KLM
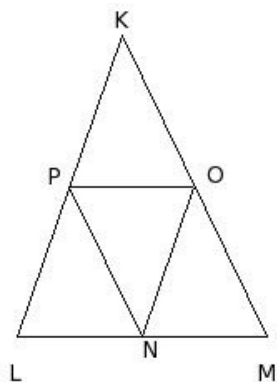
(i) {e,c} (ii) {a,b,c} (iii) {a,b} (iv) {a,e,d} (v) {b,c,d}

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12. In the given figure, $\triangle$BCD, QR ∥ CD such that area of $\triangle$BQR $=$ area of QRDC. Find $\dfrac{BQ}{BC}$
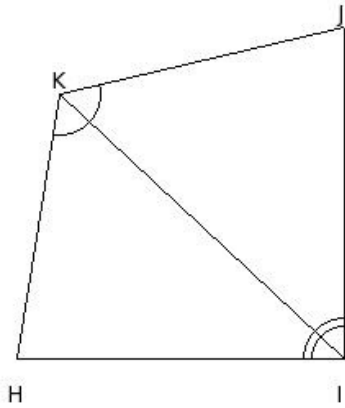

(i) $\dfrac{1}{2}\sqrt{5}$ (ii) $\dfrac{1}{2}\sqrt[4]{2}$ (iii) $\dfrac{1}{2}\sqrt{2}$ (iv) $\dfrac{1}{2}\sqrt{-1}$ (v) 1

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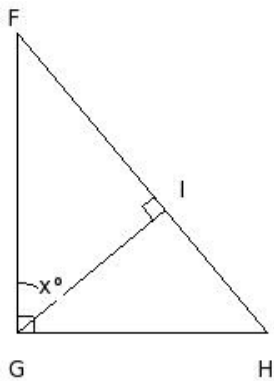Identify the property by which the two triangles are similar

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

14. In the given figure, IK is the angular bisector of $\angle I$ & $\angle K$
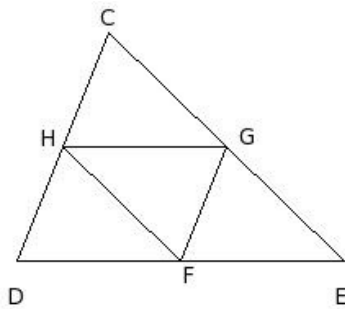HI = 20 cm, IJ = 20 cm and JK = 18 cm. Find KH

(i) 17.00 cm (ii) 16.00 cm (iii) 18.00 cm (iv) 19.00 cm (v) 20.00 cm

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15. In the given figure, $\angle IFG = 40.01°$, find the value of x =
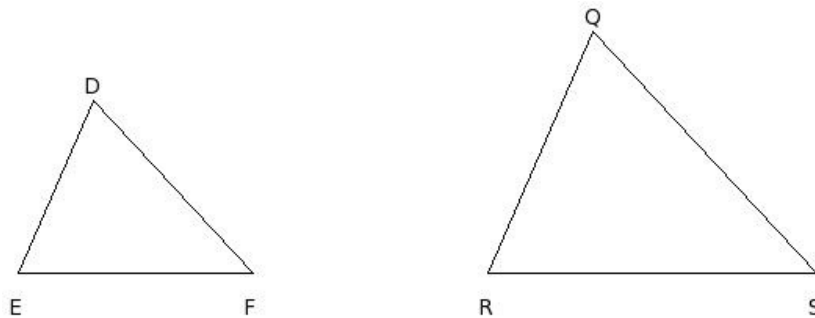

(i) 48.99° (ii) 51.99° (iii) 49.99° (iv) 50.99° (v) 47.99°

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16. In the given figure, the area of the $\triangle CDE$ is x sq.cm. F,G,H are the mid-points of the sides DE , EC and CD respectively. The area of the $\triangle FGH$ is

(i) $\dfrac{1}{2}$ of area of $\triangle CDE$ (ii) $\dfrac{2}{3}$ of area of $\triangle CDE$ (iii) $\dfrac{1}{3}$ of area of $\triangle CDE$ (iv) $\dfrac{3}{4}$ of area of $\triangle CDE$

(v) $\dfrac{1}{4}$ of area of $\triangle CDE$

17. In the given figure, △DEF ~ △QRS and DE = 12 cm, QR = 16.8 cm.
If the area of the △DEF = 82.49 sq.cm, find the area of the △QRS

(i) 159.67 sq.cm (ii) 160.67 sq.cm (iii) 163.67 sq.cm (iv) 162.67 sq.cm (v) 161.67 sq.cm

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18. If the ratio of the bases of two triangles is I : J and the ratio of the corresponding heights is K : L , the ratio of their areas in the same order is

(i) IK : JL (ii) IL : JK (iii) KL : IJ (iv) JK : IL (v) IJ : KL

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19. The perimeters of two similar triangles are 29 cm and 23 cm respectively. If one side of the first triangle is 11 cm, find the length of the corresponding side of the second triangle.

(i) 8.72 cm (ii) 7.72 cm (iii) 6.72 cm (iv) 10.72 cm (v) 9.72 cm

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20. In the given figure, three lines l , m and n are such that l ∥ m ∥ n.
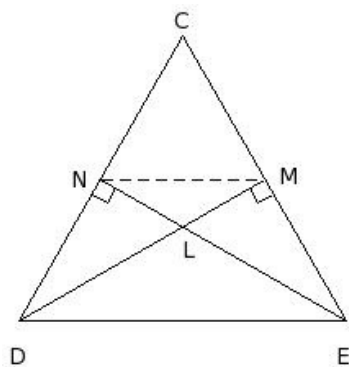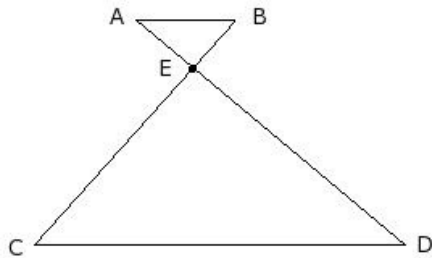Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
∠HAB =
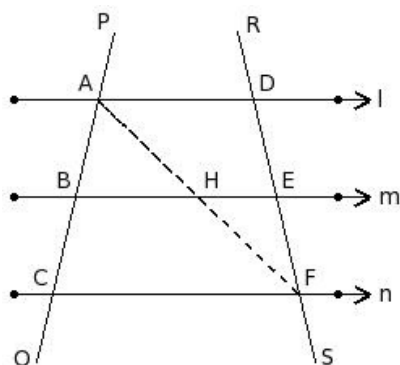
(i) ∠FDA (ii) ∠FAC (iii) ∠HFE (iv) ∠AFD (v) ∠FEH

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21. In the given figure, the altitudes MD and EN of △CDE meet at L. ∠DLN =

(i) ∠MLE (ii) ∠LND (iii) ∠NDL (iv) ∠LEM (v) ∠EML

22. In the given figure, if AB ∥ CD then

(i) △EBA ~ △EDC (ii) △ABE ~ △EDC (iii) △ABE ~ △ECD (iv) △EAB ~ △ECD (v) △ABE ~ △DCE

23. In the given figure, ∠EBC = ∠DBE and BE ∥ FD and BC = 15 cm, CE = 9 cm and ED = 11 cm. Find BF
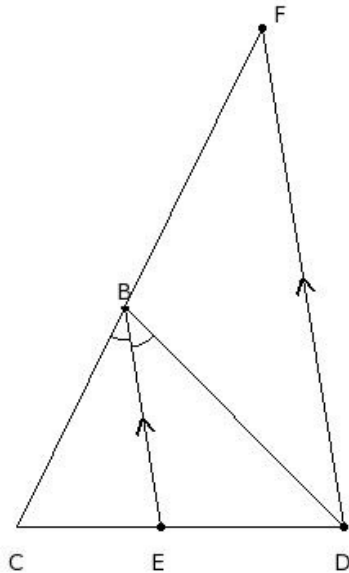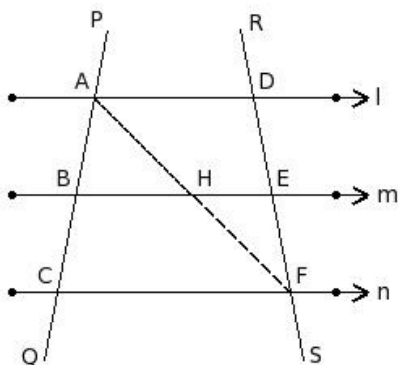

(i) 16.33 cm (ii) 19.33 cm (iii) 17.33 cm (iv) 18.33 cm (v) 20.33 cm

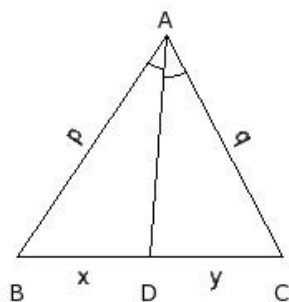In the given figure, three lines l , m and n are such that l ∥ m ∥ n.
24. Two transversals PQ and RS intersect them at the points A , B , C and D , E , F respectively.
△FEH ~

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

25. In the given figure, given ∠DAB = ∠CAD, x : y = 8.26 cm : 7.74 cm and q = 15 cm, find p =

(i) 18.00 cm (ii) 17.00 cm (iii) 16.00 cm (iv) 15.00 cm (v) 14.00 cm

Assignment Key

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

7) (iv)   8) (iii)   9) (v)   10) (iii)   11) (v)   12) (iii)

13) (ii)   14) (iii)   15) (iii)   16) (v)   17) (v)   18) (i)

19) (i)   20) (ii)   21) (i)   22) (v)   23) (iv)   24) (i)

25) (iii)