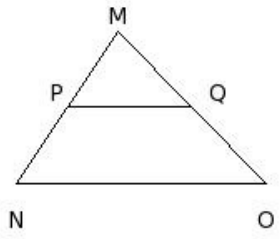
EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Similar Triangles

Grade : SSC Grade X

1. In the given figure, $PQ \parallel NO$.
If $MP = 5.85$ cm, $MN = 11.7$ cm and $MO = 13.3$ cm, find MQ

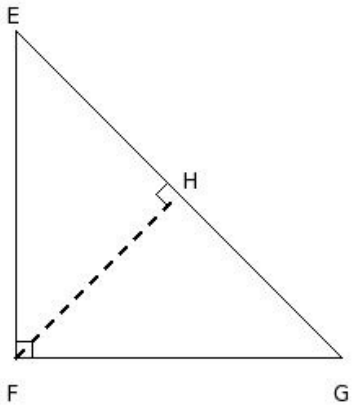


(i) 8.65 cm (ii) 5.65 cm (iii) 7.65 cm (iv) 4.65 cm (v) 6.65 cm

2. The altitude and area of an equilateral triangle of side 'a' is

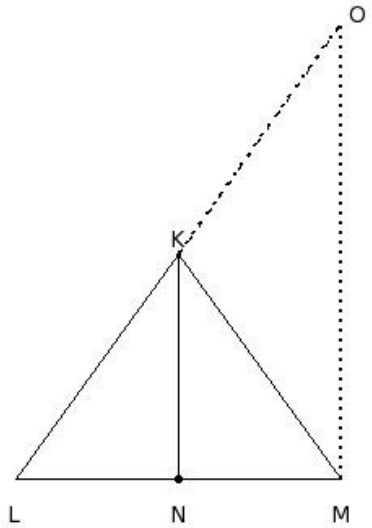
(i) $\frac{1}{2}\sqrt{3}\,a, \frac{1}{4}\sqrt{3}\,a^2$ (ii) $\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a^2$ (iii) $\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a$ (iv) $\frac{1}{2}\sqrt{3}\,a, \frac{1}{2}\sqrt{3}\,a^2$

3. In the given figure, $\triangle EFG$ is isosceles right-angled at F and $FH \perp GE$. $\angle EFG =$



(i) $\angle HFG$ (ii) $\angle FGH$ (iii) $\angle GHF$ (iv) $\angle HEF$ (v) $\angle EFH$

4. In the given figure, $\triangle KLM$ is a triangle in which KN is the internal bisector of $\angle K$ and $MO \parallel NK$ meeting LK produced at O . $\angle MOK =$



(i) $\angle LNK$ (ii) $\angle KNM$ (iii) $\angle OKM$ (iv) $\angle KMO$ (v) $\angle NMK$

5. In the given figure, △EGF is right-angled at G, GH ⊥ EF.
$EF = c, GF = a, EG = b$ and $GH = p$. Which of the following are true?

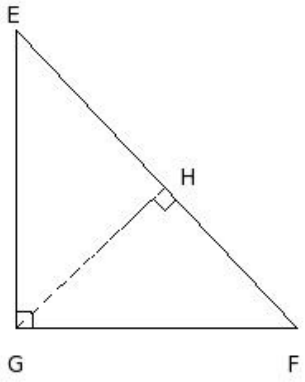
a) $\frac{1}{a^2} + \frac{1}{b^2} = \frac{1}{p^2}$

b) $ab = pc$

c) $a^2 + b^2 = c^2$

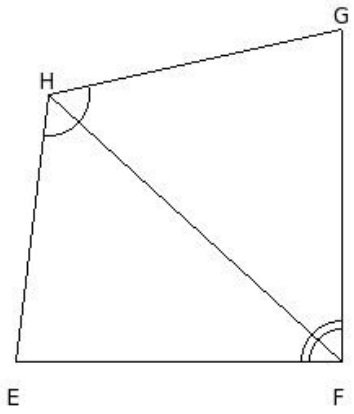
d) $\frac{1}{a^2} + \frac{1}{b^2} = \frac{1}{c^2} + \frac{1}{p^2}$

e) $\frac{1}{a^2} + \frac{1}{b^2} + \frac{1}{c^2} = \frac{1}{p^2}$



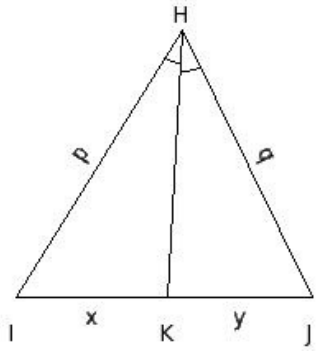
(i) {d,a,b} (ii) {a,b,c} (iii) {d,a} (iv) {d,e,c} (v) {e,b}

6. In the given figure, FH is the angular bisector of ∠F & ∠H
$EF = 20$ cm, $FG = 20$ cm and $GH = 18$ cm. Find HE



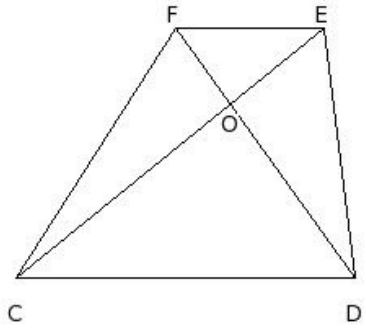
(i) 16.00 cm (ii) 17.00 cm (iii) 19.00 cm (iv) 18.00 cm (v) 20.00 cm

7. In the given figure, given ∠KHI = ∠JHK, x : y = 9.24 cm : 8.76 cm and p = 19 cm, find q =



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

8. In the given figure, CDEF is a trapezium where OD = 14 cm , OE = 5 cm and OF = 5 cm . Find OC =



(i) 16 cm (ii) 15 cm (iii) 12 cm (iv) 13 cm (v) 14 cm

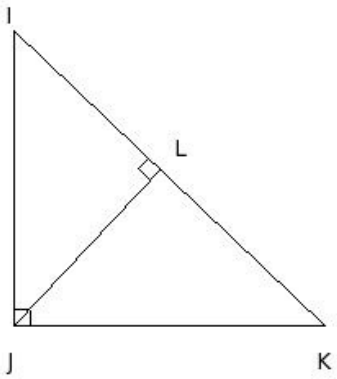
9. The ratio of the bases of two triangles ABC and DEF is $10:6$.
If the triangles are equal in area, then the ratio of their heights is

(i) $9:6$ (ii) $10:3$ (iii) $10:9$ (iv) $6:10$ (v) $11:6$

10. The foot of a ladder resting on a wall from the foot of the wall is 15 m. If the height of the top of the ladder from ground is 11 m, find the length of the ladder

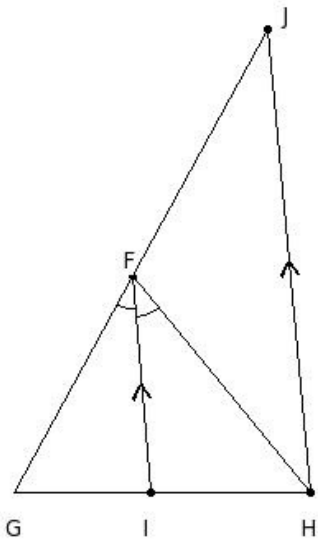
(i) 16.60 m (ii) 17.60 m (iii) 19.60 m (iv) 20.60 m (v) 18.60 m

11. In the given figure, △IJK is right-angled at J. Also, JL ⊥ IK. If IL = 12.3 cm, JL = 13.08 cm, then find LK.



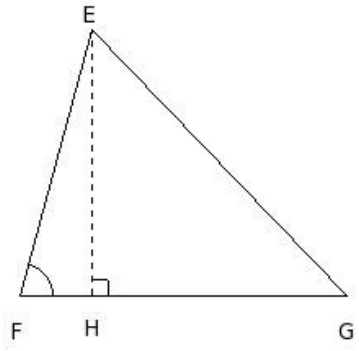
(i) 15.90 cm (ii) 14.90 cm (iii) 11.90 cm (iv) 13.90 cm (v) 12.90 cm

12. In the given figure, ∠IFG = ∠HFI and FI ∥ JH and FG = 15 cm, GI = 8 cm and IH = 10 cm. Find FJ



(i) 19.75 cm (ii) 17.75 cm (iii) 20.75 cm (iv) 18.75 cm (v) 16.75 cm

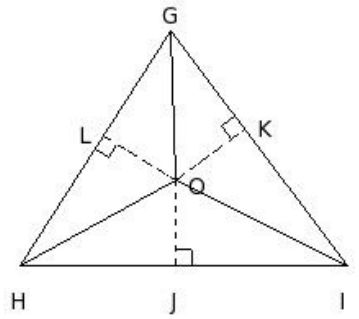
13. In the given figure, △EFG is an acute angled triangle and EH ⊥ FG. Then



(i) $EG^2 = EF^2 + FG^2 - 2FG.FH$ (ii) $EG^2 = EF^2 + FG^2 - 2EF.FG$ (iii) $EG^2 = EF^2 + FG^2 - EH^2$

(iv) $EG^2 = EF^2 + FG^2 + 2FG.FH$ (v) $EG^2 = EF^2 + FG^2 + 2EF.FG$

14. In the given figure, in △GHI, 'O' is a point inside the triangle. OJ ⊥ HI, OK ⊥ GI and OL ⊥ GH. Then



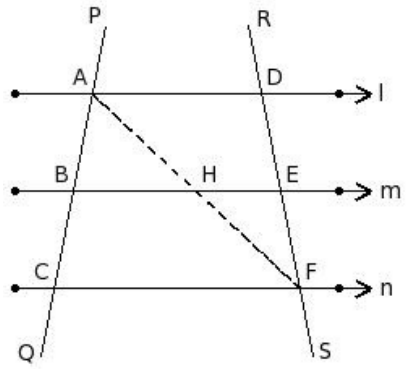
(i) $GL^2 + HJ^2 + IK^2 = OL^2 + OK^2 + OJ^2$ (ii) $GL^2 + HJ^2 + IK^2 = OG^2 + OH^2 + OI^2 - OJ^2 - OK^2 - OL^2$

(iii) $GL^2 + HJ^2 + IK^2 = OG^2 + OH^2 + OI^2 + OJ^2 + OK^2 + OL^2$

(iv) $GL^2 + HJ^2 + IK^2 = GH^2 + JI^2 + IG^2 - HL^2 - IJ^2 - KG^2$

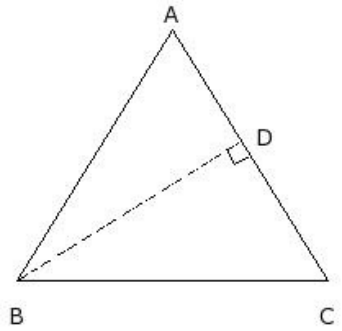
In the given figure, three lines l , m and n are such that l ∥ m ∥ n.

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



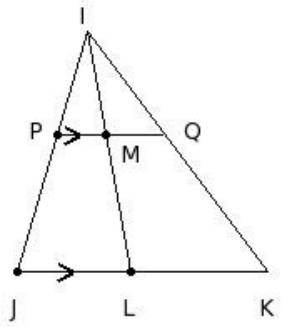
(i) ∠HFE (ii) ∠BHA (iii) ∠DAF (iv) ∠AFD (v) ∠EHF

16. In the given figure, △ABC is isosceles with AB = AC and BD ⊥ AC. Then



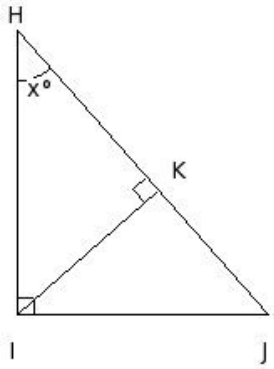
(i) $BD^2 - AD^2 = 2CD.AD$ (ii) $BD^2 + AD^2 = 2CD.AD$ (iii) $BD^2 + CD^2 = 2CD.AD$ (iv) $BD^2 - CD^2 = 2CD.AD$

17. In the given figure, PQ ∥ JK , and median IL bisects PQ.
If IJ = 15 cm, IL = 15 cm and IP = 6.43 cm, PJ =



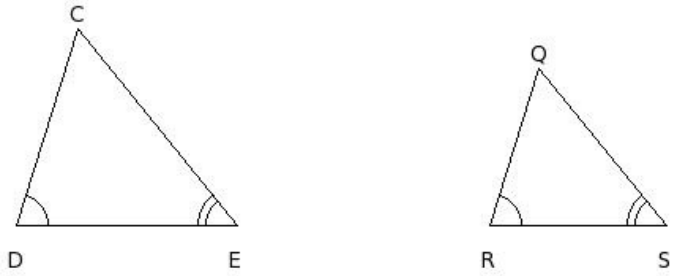
(i) 8.57 cm (ii) 10.57 cm (iii) 7.57 cm (iv) 9.57 cm (v) 6.57 cm

18. In the given figure, ∠HIK = 48.62°, find the value of x =



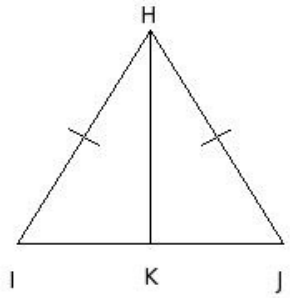
(i) 42.38° (ii) 39.38° (iii) 40.38° (iv) 43.38° (v) 41.38°

19. In the given figure, △CDE and △QRS are such that
$\angle D = \angle R$ and $\angle E = \angle S$.
Identify the property by which the two triangles are similar



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

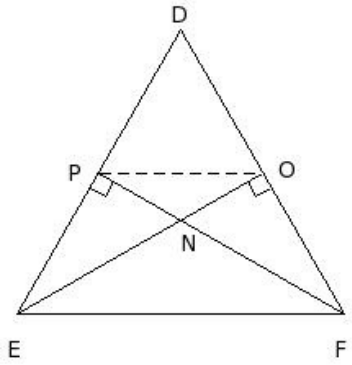
20. In the given figure, △HIJ is a triangle in which HI = HJ and K is a point on IJ. Then



(i) $HI^2 - HK^2 = HK.IK$ (ii) $HI^2 - HK^2 = IK.JK$ (iii) $HI^2 + HK^2 = IJ^2$ (iv) $HI^2 + HK^2 = IK.JK$

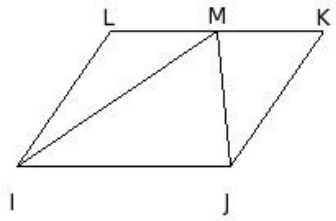
(v) $HI^2 - HK^2 = HK.JK$

21. In the given figure, the altitudes OE and FP of △DEF meet at N. △NEF ~



(i) △OFE (ii) △PEF (iii) △OFN (iv) △PEN (v) △NPO

22. In the given figure, the parallelogram IJKL and the triangle △MIJ are on the same bases and between the same parallels.
The area of the △MIJ 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) $\frac{5}{4}$ the area of the triangle

(iv) twice the area of the triangle (v) thrice the area of the triangle

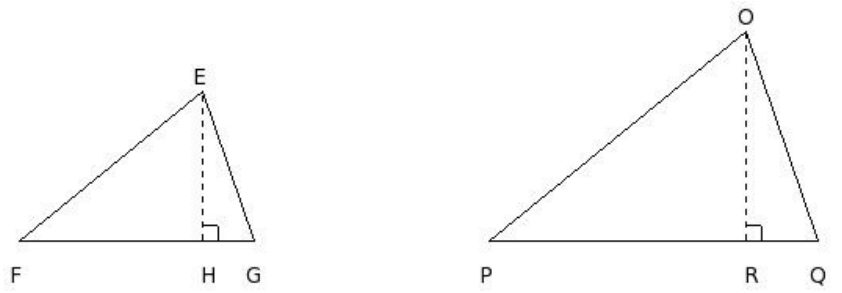
23. Two poles of heights 10 m and 17 m stand vertically on a plane ground. If the distance between their feet is 15 m, find the distance between their tops

(i) 14.55 m (ii) 17.55 m (iii) 18.55 m (iv) 15.55 m (v) 16.55 m

24. A vehicle goes 13 km East and then 10 km North. How far is it from its starting point ?

(i) 14.40 km (ii) 16.40 km (iii) 15.40 km (iv) 18.40 km (v) 17.40 km

25. In the given figure, $\triangle EFG \sim \triangle OPQ$ and FG = 15 cm , PQ = 21 cm and $OR = 13.2$ cm, find the area of the $\triangle EFG$



(i) 72.71 sq.cm (ii) 68.71 sq.cm (iii) 70.71 sq.cm (iv) 69.71 sq.cm (v) 71.71 sq.cm

Assignment Key

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