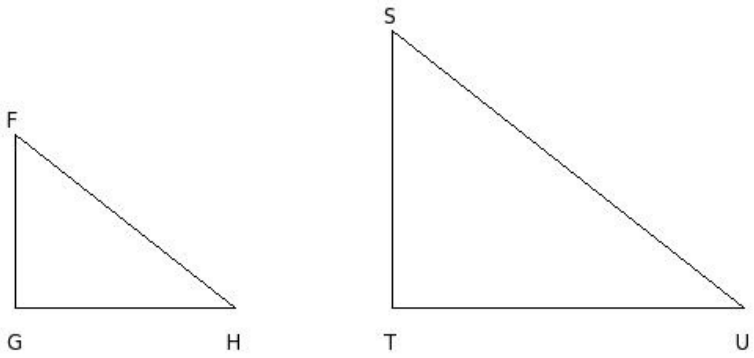
A vertical stick 11 m long casts a shadow of 14 m long on the ground.

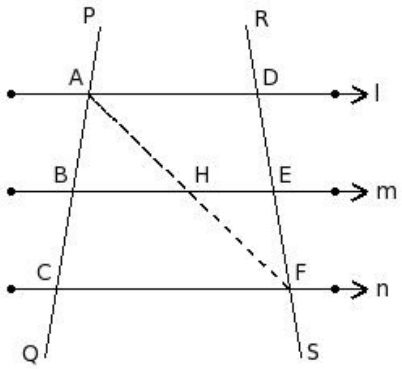
1. At the same time, a tower casts the shadow 112 m long on the ground.
Find the height of the tower.



(i) 87 m (ii) 90 m (iii) 88 m (iv) 89 m (v) 86 m

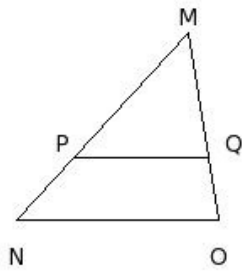
In the given figure, three lines l , m and n are such that l ∥ m ∥ n.

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



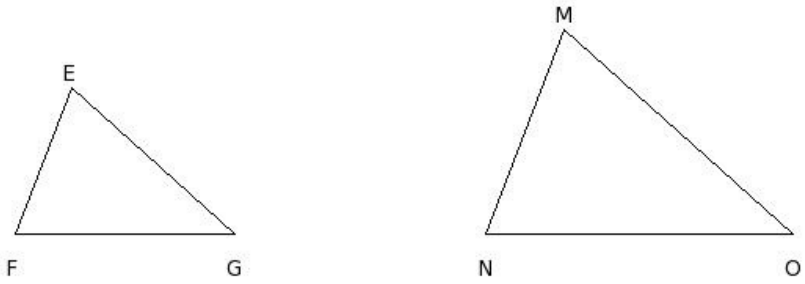
(i) ∠ABH (ii) ∠FDA (iii) ∠FEH (iv) ∠DAF (v) ∠EHF

3. In the given figure, PQ ∥ NO .
If MP = 10.6 cm , MN = 15.9 cm and MO = 11.8 cm , find MQ



(i) 5.87 cm (ii) 6.87 cm (iii) 7.87 cm (iv) 9.87 cm (v) 8.87 cm

4. In the given figure, △EFG ~ △MNO and EF = 10 cm, MN = 14 cm.
If the area of the △EFG = 65.38 sq.cm, find the area of the △MNO



(i) 126.15 sq.cm (ii) 128.15 sq.cm (iii) 127.15 sq.cm (iv) 130.15 sq.cm (v) 129.15 sq.cm

5. The dimensions of the model of a multi-storey building are 2.5 cm × 7 cm × 6.5 cm. If the model is drawn to a scale of 1 : 135, find the floor area of a room of the building whose area in the model is 4 sq.cm.

(i) 7.29 sq.m (ii) 6.29 sq.m (iii) 9.29 sq.m (iv) 5.29 sq.m (v) 8.29 sq.m

6. Which of the following are true?

a) Similarity is reflexive.
b) Similarity is anti symmetric.
c) Similarity is symmetric.
d) Similarity is transitive.

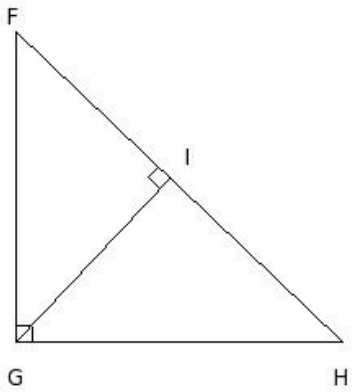
(i) {b,a} (ii) {b,a,c} (iii) {a,c,d} (iv) {b,c} (v) {b,d}

7. A model of a ship is made to a scale of 1 : 65. If the volume of the model ship is 6859 cu.m, calculate the volume of the ship.

(i) 1703652875.00 cu.m (ii) 2013652875.00 cu.m (iii) 2143652875.00 cu.m (iv) 1643652875.00 cu.m

(v) 1883652875.00 cu.m

8. In the given figure, △FGH is right-angled at G. Also, GI ⊥ FH. If FG = 19 cm, GH = 20 cm, then find GI.



(i) 11.77 cm (ii) 12.77 cm (iii) 14.77 cm (iv) 13.77 cm (v) 15.77 cm

9. The dimensions of the model of a multi-storey building are 4.5 cm × 3.5 cm × 9 cm. If the model is drawn to a scale of 1 : 130, find the actual dimensions of the building.

(i) 585 cm × 455 cm × 1171 cm (ii) 586 cm × 456 cm × 1170 cm (iii) 586 cm × 455 cm × 1170 cm

(iv) 585 cm × 455 cm × 1170 cm (v) 585 cm × 456 cm × 1170 cm

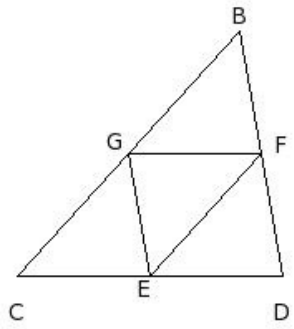
10. In an equilateral triangle ABC, the side BC is trisected at D. Then

(i) $7\ AD^2 = 9\ AB^2$ (ii) $9\ AD^2 = 7\ AB^2$ (iii) $7\ AD^2 = 3\ AB^2$ (iv) $3\ AD^2 = 7\ AB^2$

11. AB = 17.00 cm, BC = 9.00 cm are the measurements of a rectangular field of land ABCD on a map drawn to a scale of 1 : 23000. Calculate the area of the field.

(i) 10.09 sq.km (ii) 7.09 sq.km (iii) 9.09 sq.km (iv) 8.09 sq.km (v) 6.09 sq.km

12. In the given figure, the area of the △BCD is x sq.cm. E,F,G are the mid-points of the sides CD , DB and BC respectively. The area of the △EFG is



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

(v) $\frac{1}{4}$ of area of △BCD

13. A model of a ship is made to a scale of 1 : 165. If length of the model ship is 4 m, calculate the length of the ship.

(i) 660.00 m (ii) 643.00 m (iii) 668.00 m (iv) 656.00 m (v) 684.00 m

14. AB = 18.00 cm, BC = 15.00 cm are the measurements of a rectangular field of land ABCD on a map drawn to a scale of 1 : 16000. Calculate the diagonal distance of the field.

(i) 4.75 km (ii) 2.75 km (iii) 1.75 km (iv) 5.75 km (v) 3.75 km

15. A model of building is made with a scale factor of 1 : 90. Find the actual height of the building if the height of the model is 8.5 cm.

(i) 6.65 m (ii) 8.65 m (iii) 7.65 m (iv) 5.65 m (v) 9.65 m

16. A rectangle having an area 300.00 sq.cm is reduced such that the area of its image is 75.00 sq.cm. Find the scale factor.

(i) 7.5 (ii) 1.5 (iii) 0.5 (iv) 2.5 (v) 8.5

17. A model of a ship is made to a scale of 1 : 65. If the length of the ship is 585 m, calculate length of the model ship.

(i) 10.00 m (ii) 7.00 m (iii) 9.00 m (iv) 8.00 m (v) 11.00 m

18. A rectangle having an area 255.00 sq.cm is enlarged by a scale factor of 2.00. Find the area of its image.

(i) 1200.00 sq.cm (ii) 1250.00 sq.cm (iii) 1020.00 sq.cm (iv) 980.00 sq.cm (v) 770.00 sq.cm

19. Which of the following are true?

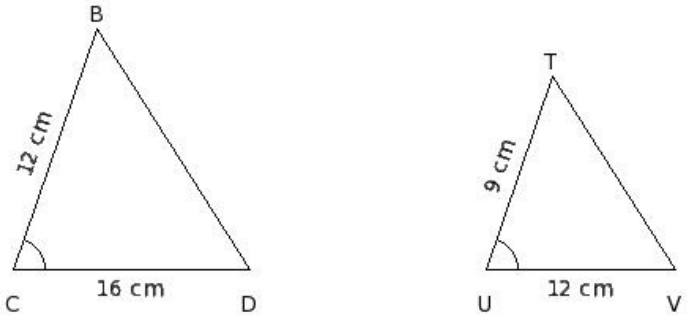
a) Similar figures have same area.
b) If two figures are similar, then they are congruent too.
c) Similar and congruent are not synonymous.
d) Congruent figures have same area.
e) If two figures are congruent, then they are similar too.

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

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

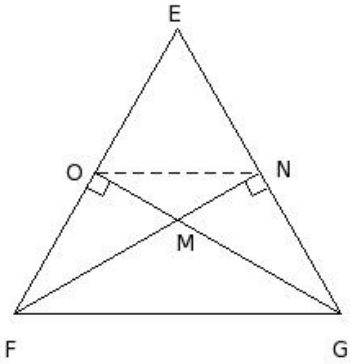
20. $\angle C = \angle U$ and $\frac{BC}{TU} = \frac{CD}{UV}$.

Identify the property by which the two triangles are similar



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

21. In the given figure, the altitudes NF and GO of △EFG meet at M. △NGF ~

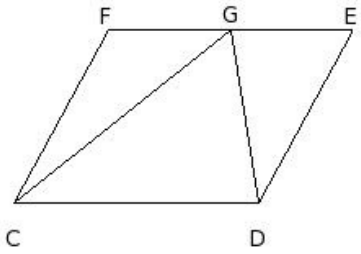


(i) △OFM (ii) △MON (iii) △NGM (iv) △MFG (v) △OFG

In the given figure, the parallelogram CDEF and the triangle △GCD are on the same bases and between the same

22. parallels.

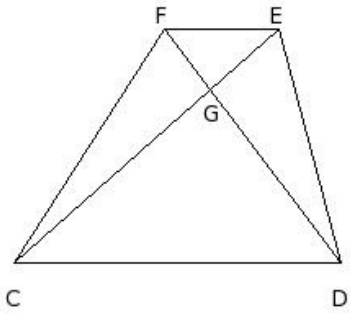
The area of the △GCD is x sq.cm. The area of the parallelogram is



(i) $\frac{4}{3}$ the area of the triangle (ii) $\frac{5}{4}$ the area of the triangle (iii) twice the area of the triangle

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

23. CDEF is a cyclic trapezium. Diagonals DF and CE intersect at G. If FC = 17 cm, find DE

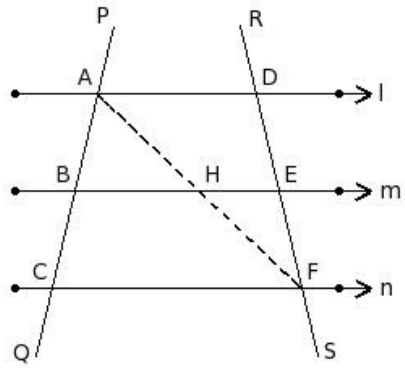


(i) 18 cm (ii) 15 cm (iii) 16 cm (iv) 19 cm (v) 17 cm

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.

△FDA ~



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

25. Which of the following are necessary conditions for similarity of two polygons ?

a) The corresponding sides are proportional.
b) The corresponding angles are proportional.
c) The corresponding angles are equal.
d) The corresponding sides are equal.

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

Assignment Key

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