EduSahara™ Assignment

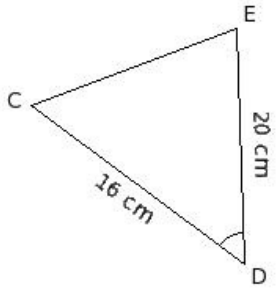
Name : Similarity of Triangles

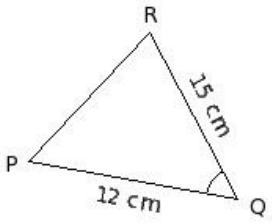
Chapter : Similarity

Grade : ICSE Grade IX

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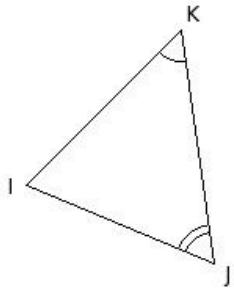
1. Identify the property by which the two given triangles are similar

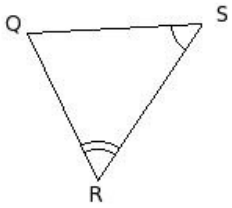



(i) AAA Similarity (ii) not similar (iii) SSS Similarity (iv) SAS Similarity

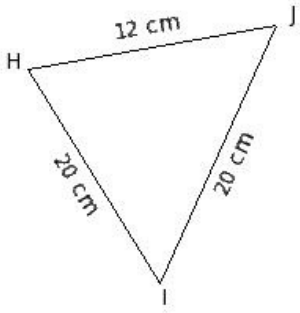
2. Identify the property by which the two given triangles are similar

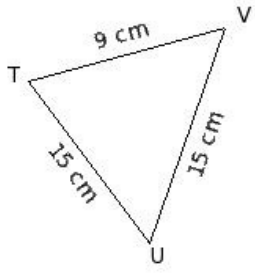



(i) SSS Similarity (ii) SAS Similarity (iii) not similar (iv) AAA Similarity

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



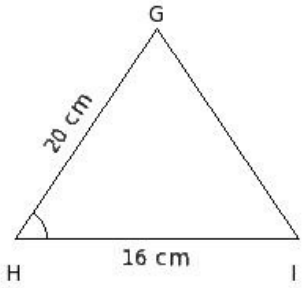



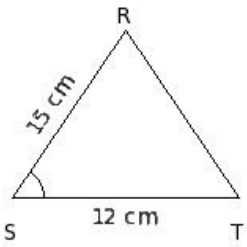

(i) AAA Similarity (ii) SSS Similarity (iii) not similar (iv) SAS Similarity

In the given figure, △GHI and △RST are such that

4. $\angle H = \angle S$ and $\frac{GH}{RS} = \frac{HI}{ST}$.

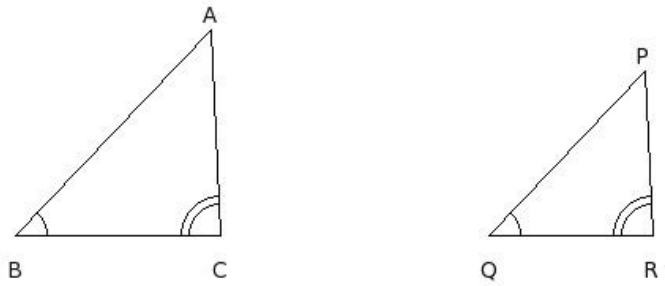
Identify the property by which the two triangles are similar



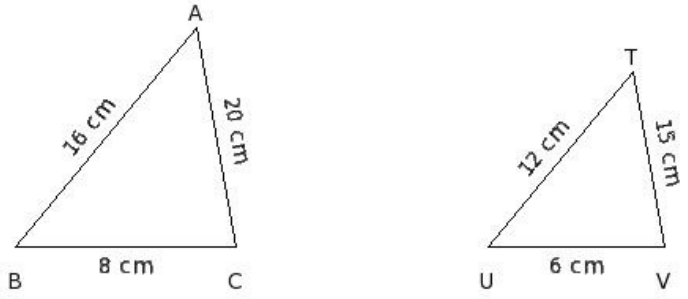

(i) SAS Similarity (ii) AAA Similarity (iii) SSS Similarity (iv) not similar

5. In the given figure, $\triangle ABC$ and $\triangle PQR$ are such that $\angle B = \angle Q$ and $\angle C = \angle R$.
Identify the property by which the two triangles are similar



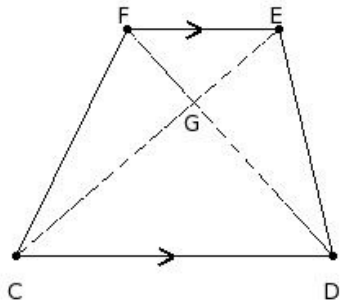

(i) SAS Similarity (ii) SSS Similarity (iii) not similar (iv) AAA Similarity

6. In the given figure, $\triangle ABC$ and $\triangle TUV$ are such that $\frac{AB}{TU} = \frac{BC}{UV} = \frac{CA}{VT}$.
Identify the property by which the two triangles are similar



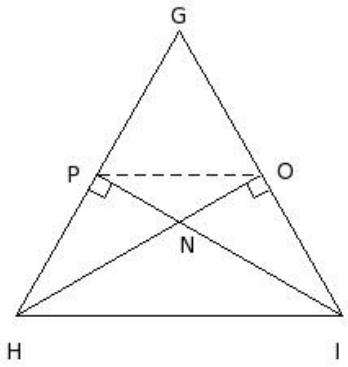

(i) not similar (ii) SSS Similarity (iii) AAA Similarity (iv) SAS Similarity

7. In the given figure, CDEF is a trapezium in which CD ∥ EF and the diagonals DF and CE intersect at G. $\triangle GCD \sim$



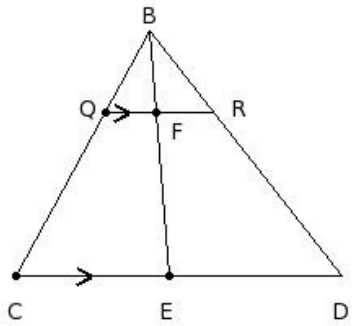

(i) $\triangle GFC$ (ii) $\triangle FCD$ (iii) $\triangle GDE$ (iv) $\triangle DEF$ (v) $\triangle GEF$

8. In the given figure, the altitudes OH and IP of $\triangle GHI$ meet at N. $\triangle PHI \sim$




(i) $\triangle OIN$ (ii) $\triangle NPO$ (iii) $\triangle PHN$ (iv) $\triangle OIH$ (v) $\triangle NHI$

9. In the given figure, QR ∥ CD , and median BE bisects QR. △BFR ~




(i) △CDB (ii) △BED (iii) △BCD (iv) △BCE (v) △BQF

10. Which of the following are true?

a) Any two triangles are similar.
b) Any two squares are similar.
c) Any two circles are similar.
d) Any two triangles are congruent.
e) Any two circles are congruent.
f) Any two squares are congruent.

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

11. Which of the following are true?

a) A circle is a polygonal region.
b) A semi-circle is a polygonal region.
c) A triangle is a polygonal region.
d) A square is a polygonal region.
e) A sector is a polygonal region.

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

12. Which of the following are true?

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

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

13. Which of the following are true?

a) A polygonal region can be divided into a finite number of triangles in a unique way.
b) Area of a convex polygonal region is equal to the sum of the areas of all triangles formed by joining the vertices of the polygon with an interior point.
c) Area of the union of two polygonal region is not equal to the sum of the individual area.
d) Area of the union of two polygonal region is the sum of the individual area.

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

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

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

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

15. Which of the following are true?

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

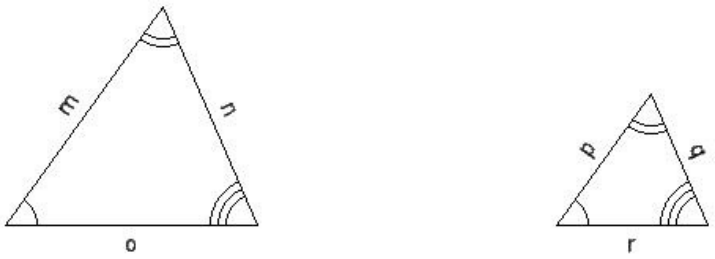
(i) {d,c} (ii) {d,a} (iii) {d,b} (iv) {a,b,c} (v) {d,a,b}

16. Which of the following are true?

a) Any two triangles are similar if the corresponding sides are proportional.
b) Any two triangles are similar if the corresponding angles are equal.
c) Any two quadrilaterals are similar if the corresponding sides are proportional.
d) Any two quadrilaterals are similar if the corresponding angles are equal.

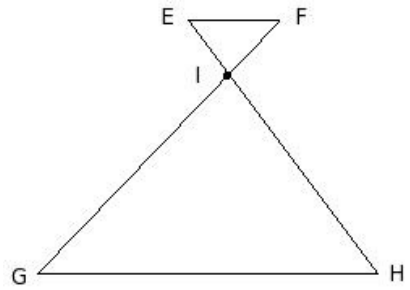
(i) {d,b} (ii) {d,a} (iii) {d,c} (iv) {d,a,b} (v) {a,b,c}

17. In the given two similar triangles, if m = 17 cm, n = 15 cm, o = 16 cm, p = 10.2 cm, find q




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

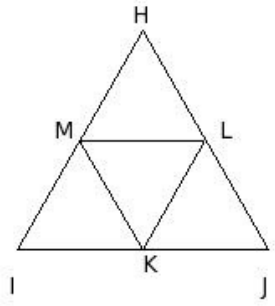
18. In the given figure, if EF ∥ GH then




(i) △EFI ~ △IGH (ii) △EFI ~ △IHG (iii) △IEF ~ △IGH (iv) △EFI ~ △HGI (v) △IFE ~ △IHG

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

a) △HML ~ △HIJ
b) △KLM ~ △HIJ
c) △LKJ ~ △HIJ
d) △MIK ~ △HIJ
e) △KML ~ △HIJ




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

## Assignment Key

| | | | | | |
|---|---|---|---|---|---|
| 1) (iv) | 2) (iv) | 3) (ii) | 4) (i) | 5) (iv) | 6) (ii) |
| 7) (v) | 8) (iv) | 9) (ii) | 10) (i) | 11) (v) | 12) (iii) |
| 13) (v) | 14) (iv) | 15) (iv) | 16) (v) | 17) (iv) | 18) (iv) |
| 19) (i) | | | | | |

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