



CHAPTER – 6 - TRIANGLES

1. Fill in the blanks using the correct word given in brackets:

(i) All circles are _____. (congruent, similar)

(ii) All squares are _____. (similar, congruent)

(iii) All _____ triangles are similar. (isosceles, equilateral)

_____ and (b) their corresponding sides are _____.

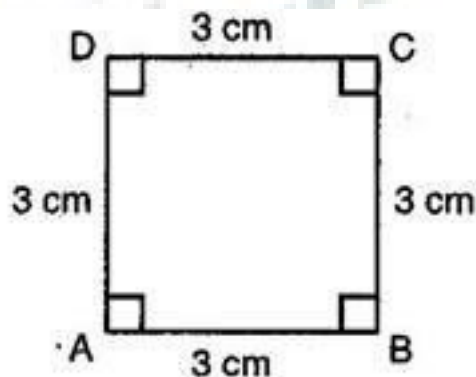
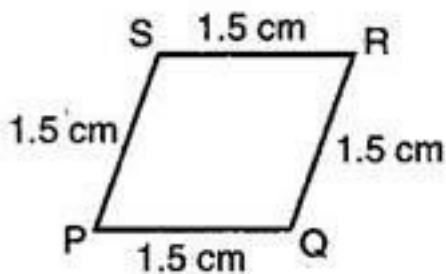
(equal, proportional)

2. Give two different examples of pair of:

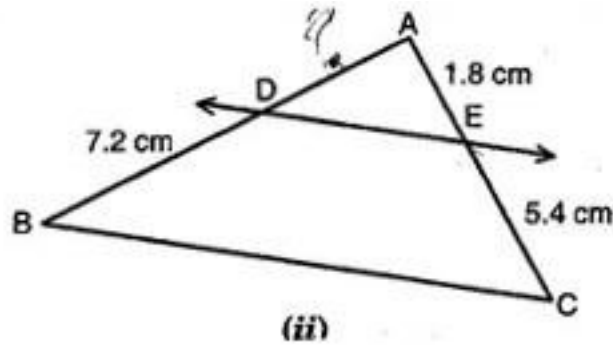
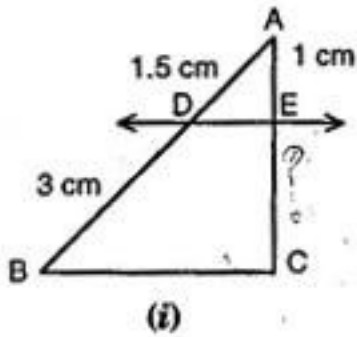
(i) Similar figures

(ii) Non-similar figures

3. State whether the following quadrilaterals are similar or not:



4. In figure (i) and (ii), $DE \parallel BC$. Find EC in (i) and AD in (ii).



5. E and F are points on the sides PQ and PR respectively of a $\triangle PQR$. For each of the following cases, state whether $EF \parallel QR$:

- (i) $PE = 3.9$ cm, $EQ = 4$ cm, $PF = 3.6$ cm and $FR = 2.4$ cm
- (ii) $PE = 4$ cm, $QE = 4.5$ cm, $PF = 8$ cm and $RF = 9$ cm
- (iii) $PQ = 1.28$ cm, $PR = 2.56$ cm, $PE = 0.18$ cm and $PF = 0.36$ cm

*SOLVE EACH CARRY 2 MARKS

6. If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
7. If a line divides any two sides of a triangle in the same ratio, then the line is parallel to the third side.
8. If in two triangles, corresponding angles are equal, then their corresponding sides are in the same ratio (or proportion) and hence the two triangles are similar.
9. If in two triangles, sides of one triangle are proportional to the sides of the other triangle, then their corresponding angles are equal and hence the two triangles are similar.
10. If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, then the two triangles are similar.
11. The ratio of the areas of two similar triangles is equal to the square of the ratio of their corresponding sides.