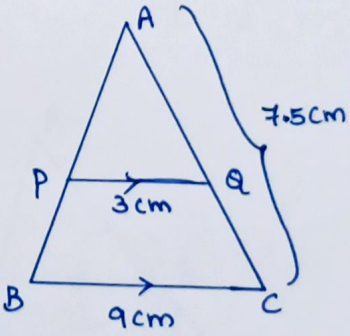
6. Triangles

8 Marks:

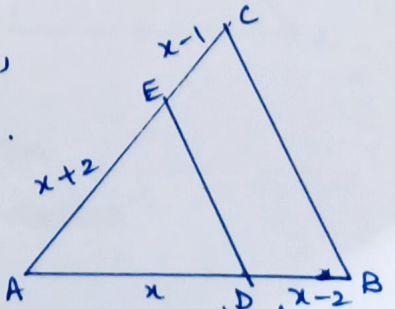
1) Theorem - 6.1 in page No: 160
2) Theorem - 6.2 in page No: 164
3) Example - 2 in page No: 166
4) Exercise - 6.2 → 5, 6, 8, 10 problems in page No: 170
5) Theorem - 6.5 in page No: 180
6) Examples - 5, 4 in page No: 182
7) Example - 7 in page No: 184
8) Example - 8 in page No: 186
9) Exercise - 6.3 → 4, 7, 12, 15, 16 in page No's: 192, 194

2 Marks:

1) Example - 3 in page No: 166
2) Exercise - 6.2 → 1, 2, 3, 4, 7, 8 problems in page No's: 168, 170
3) Example - 6 in page No: 184
4) Exercise - 6.3 → 1, 2 problems in page No: 190
5) Exercise - 6.3 → 8, 9, 15 problems in page No's: 192, 194
6) In figure PQ || BC, PQ = 3 cm, BC = 9 cm and AC = 7.5 cm. Find the length of AQ?



7) If D and E are the points on the sides AB and AC of ΔABC and AB = 12 cm, AD = 8 cm, AE = 12 cm, AC = 18 cm then prove that DE || BC
8) In the figure DE || BC. If AD = x, DB = x − 2, AE = x + 2 and EC = x − 1, find the value of x.



9) Give examples for i) similar figures
ii) non - similar figures
iii) Congruent figures iv) non - congruent figures

1 Mark:

1) Write the properties of similar figures?

2) Statement - 1: All similar triangles are congruent
   Statement - 2: All right angled isosceles triangles are similar

3) Assertion: If in a ΔABC, $AB = 3cm$, $BC = 4cm$ and $AC = 5cm$ then $\angle B = 90^\circ$
   Reason: If in a ΔABC, $AB^2 + BC^2 = AC^2$ then $\angle B = 90^\circ$

4) Statement - 1: All squares are congruent to each other
   Statement - 2: All circles are similar

5) Statement - A: Two line segments are always similar
   Statement - B: If $\Delta ABC \sim \Delta PQR$ then $AB : PQ = AC : QR$

6) Name two figures that are always similar

7) $\Delta ABC \sim \Delta LMN$ and $\angle A = 80^\circ$, $\angle M + \angle N =$ ____

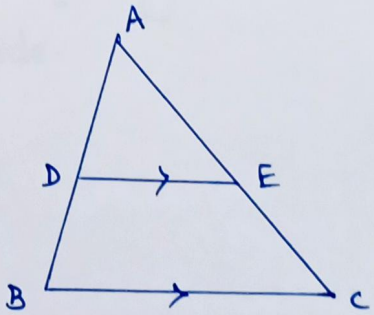
8) Two triangles with equal corresponding sides always similar (T/F)

9) Which of the following is true?
   A) All equilateral triangles are similar B) All circles are similar
   C) All squares are similar D) All of the above

10) Which of the following is not a similarity criterion for triangles. [ ]
   A) AA B) SAS C) AAA D) RHS

11) Match the following:

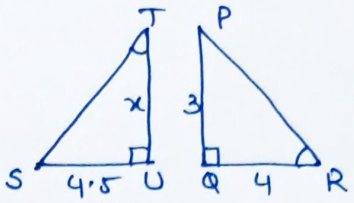
p) $\frac{AB}{DB}$	i) $\frac{AE}{EC}$
q) $\frac{AD}{DB}$	ii) $\frac{AC}{AE}$
r) $\frac{AB}{AD}$	iii) $\frac{AC}{EC}$



12) Statement - 1: All congruent triangles are similar
   Statement - 2: All equilateral triangles are similar

13) Statement A : Any two circles are similar
Statement B : Any two equilateral triangles are similar.

14) In the given figure $\Delta PQR \sim \Delta SUT$.
Find the value of x.



15) Statement A : All equilateral triangles are similar
Statement B : All isosceles triangles are similar

16) Statement A : All congruent figures are similar but all similar figures need not be congruent.
Statement B : All squares are not similar

17) Statement A : Two triangles are similar if their corresponding angles are equal and corresponding sides are in the same ratio.
Statement B : Any two rectangles are similar

18) Statement A : In ΔABC, if $DE \| BC$ and $\frac{AD}{DB} = \frac{3}{5}$, $AC = 5.6cm$ then $AE = 2.1cm$
Statement B : The diagonal of a quadrilateral ABCD intersect each other at 'O' such that $\frac{AO}{BO} = \frac{CO}{DO}$ then ABCD is trapezium

19) Statement A : A line drawn through the mid point of one side of a triangle, is parallel to another side and bisects the third side.
Statement B : A line joining the mid points of any two sides of a triangle is parallel to the third side.

20) Statement A : All triangles are similar
Statement B : All rectangles are congruent