

CHAPTER 6 TRIANGLES

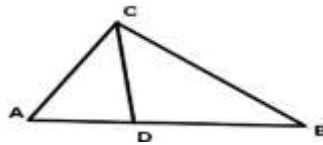
1. If $\triangle ABC \sim \triangle PQR$, $AB = 6.5$ cm, $PQ = 10.4$ cm. Perimeter of $\triangle ABC$ is 60 cm, then the perimeter of $\triangle PQR$ is

- (a) 100cm (b) 60cm (c) 96 cm (d) none

2. XY is drawn parallel to the base BC of $\triangle ABC$ cutting AB at X and AC at Y . If $AB = 4 BX$ and $YC = 2$ cm, then AY is

- (a) 2cm (b) 4cm (c) 6 cm (d) 8cm

3. From the below figure if $\angle ACB = \angle CDA$, $AD = 3$ cm and $AC = 6$ cm then find the length of AB



- (a) 12cm (b) 13cm (c) 14cm (d) none of these

4. In $\triangle ABC$ and $\triangle DEF$, $\angle B = \angle E$, $\angle F = \angle C$ and $AB = 3DE$. Then the two triangles are

- (a) Congruent but not similar (b) Similar but not congruent
(c) Neither congruent nor similar (d) none of the above

5. In $\triangle ABC$, D and E are points on the sides AB and AC respectively such that $DE \parallel BC$, if $AD = 2.5$ cm, $BD = 3.0$ cm and $AE = 3.75$ cm, find the length of AC

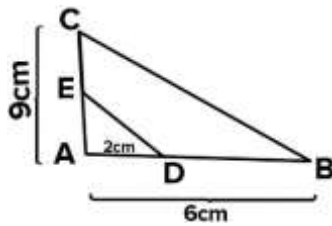
- (a) 7.65 cm (b) 8.45 cm (c) 6.89cm (d) 8.25cm

6. **Assertion:** If $\triangle ABC \sim \triangle PQR$, then $\angle A = \angle R$

Reason; if in two triangles, corresponding angles are equal, then their corresponding sides are in the same ratio and hence the two triangles are similar

- a) Both A and R is true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true.

11. In fig $DE \parallel BC$, then the measure of AE is



- (a) 3.6cm (b) 6.3cm (c) 3cm (d) 6cm

12. The perimeter of two similar triangles ABC and LMN are 60cm and 48 cm respectively. If LM = 8cm, then the length of AB is

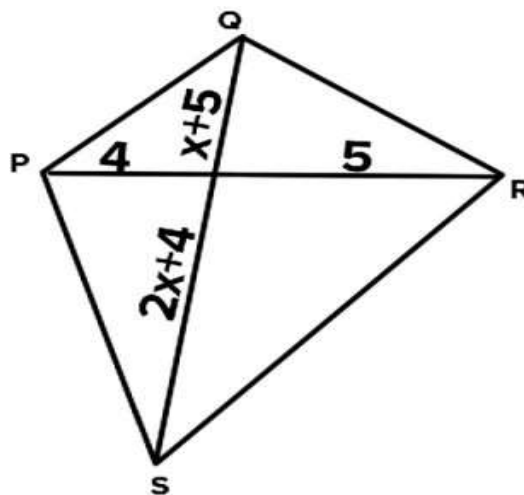
- (a) 20cm (b) 15cm (c) 10cm (d) 25cm

13. Find the value of $\angle BAD$ in $\triangle ABC$, if D is a point on the side BC such that $\frac{AB}{AC} = \frac{BD}{DC}$

$$\angle B = 70^\circ \text{ and } \angle C = 50^\circ$$

- (a) 30° (b) 45° (c) 60° (d) 75°

14. Evaluate x from the given trapezium PQRS such that $PQ \parallel SR$



- (a) 2 (b) 5 (c) 3 (d) 4

15. Which of the following is true? From the figure $\angle Q = \angle E = 80^\circ$ and $\angle R = \angle D = 40^\circ$

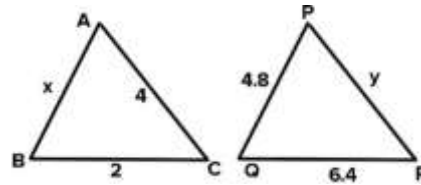
(a) $\triangle PQR \sim \triangle FED$

(b) $\triangle PQR \sim \triangle DEF$

(c) $\triangle PQR \sim \triangle FDE$

(d) $\triangle QPR \sim \triangle FED$

16. What is the value of $x + y$, if $\triangle ABC \sim \triangle PQR$



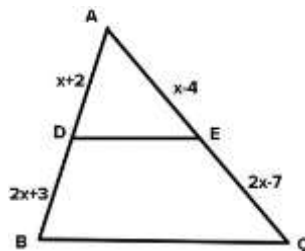
(a) 12.8cm

(b) 12.5cm

(c) 14cm

(d) 14.3cm

17. Find the value of x for which $DE \parallel BC$ in the adjoining figure



(a) $x = 2$

(b) $x = 3$

(c) $x = 1$ (d) $x = 4$

18. Two circles of any radius are always:

(a) Congruent

(b) Similar

(c) Almost same

(d) Copy

19. If all the three angles of a triangle are equal to corresponding three angles of another triangle, then the triangles are said to be:

(a) Similar but not congruent.

(b) Congruent but not similar

(c) Can be both similar as well as congruent

(d) Neither similar nor congruent.

20. 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

(a) Ratio

(b) Size

(c) Parts

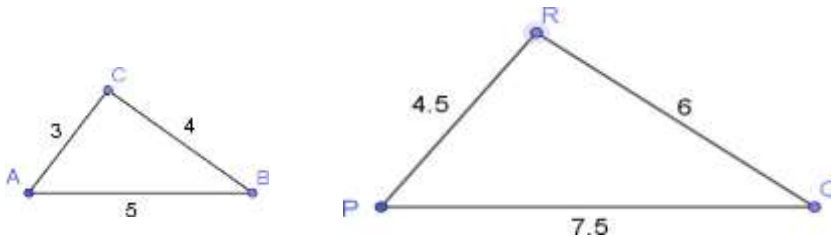
(d) Lengths

21. If a line divides any two sides of a triangle in the same ratio, then the line is----- to the third side

- (a) Equal (b) Similar (c) Not equal (d) Parallel

22. For any two similar triangles which of the following statements are valid:

- (a) Their sides are proportional
(b) Their sides are always in the same ratio.
(c) Their sides are equal
(d) Their sides are parallel.



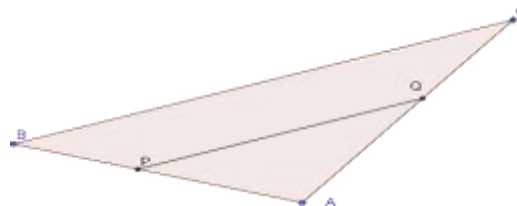
23. Name the criteria of similarity by which following triangles are similar.

- (a) S.S.S. (b) S.A.S. (c) A.A.A. (d) A.S.A

24. In a right angled triangle ABC , $\angle C = 35^\circ$ and in another right-angled triangle PQR , $\angle R = 35^\circ$. Then relation between the two triangles is:

- (a) Congruent (b) Equal (c) Similar (d) No relation

25. In the given $\triangle ABC$, line PQ is parallel to side BC , then $\angle B = \angle P$ because they are:

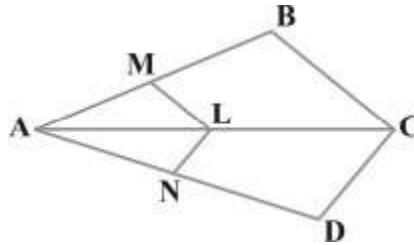


- (a) Alternate interior angles. (b) Allied angles.
(c) Adjacent angles. (d) Corresponding angles

26. For any two similar triangles the ratio of their sides is equal to the ratio of

- (a) Their medians. (b) Their altitudes. (c) Their angle bisectors. (d) All of these.

27. In the following figure LM is parallel to BC and LN is parallel to CD then which of the following relation is true:



- (a) $\frac{AM}{AB} = \frac{AN}{AD}$ (b) $\frac{ML}{BC} = \frac{AL}{AC}$
(c) Both of (a) &(b) (d) Neither of these

28. **A: Assertion:** A line drawn parallel to any one side of a triangle intersects the other two sides proportionally.

R: Reason: Parallel lines cannot be drawn to any one side of a triangle.

- (a) Both A and R are true and R is the correct reason of A.
(b) Both A and R are true and R is not the correct reason of A.
(c) A is true but R is false.
(d) A is false but R is true.

29. E and F are the points on the sides PQ and PR respectively of ΔPQR ., PE = 4 cm, QE= 4.5 cm, PF = 8 cm and RF = 9 cm.

A: Assertion: EF is not parallel to QR

R: Reason: In a triangle if two sides are divided proportionally by a line then the line is parallel to the third side.

- (e) Both A and R are true and R is the correct reason of A.
(f) Both A and R are true and R is not the correct reason of A.
(g) A is true but R is false.
(h) A is false but R is true.

30. **A: Assertion:** If any two sides of a triangle are proportional to corresponding two sides of another triangle and the included angles are equal then the triangles are similar by SAS similarity criterion.

R: Reason: If the equal angles are not included between the proportional sides, then SAS criterion will be void.

- (i) Both A and R are true and R is the correct reason of A.
- (j) Both A and R are true and R is not the correct reason of A.
- (k) A is true but R is false.
- (l) A is false but R is true.