

CHAPTER-6 | Triangles

QUIZ PART-04

1. If $DE \parallel BC$ in $\triangle ABC$, then $\frac{AD}{AB} = \frac{AE}{AC}$.
- A. True
B. False
C. Equal
D. Proportional (A)

Explanation: This is Thales' Theorem, which states the corresponding sides are proportional.

2. In trapezium $ABCD$, $AB \parallel DC$ and $EF \parallel AB$, what is the proportionality?
- A. $\frac{AE}{BF} = \frac{FC}{DC}$
B. $\frac{AE}{ED} = \frac{DC}{EF}$
C. $\frac{AB}{DC} = \frac{EF}{AB}$
D. None (A)

Explanation: This follows from the proportionality theorem for trapeziums.

3. For similar triangles, the ratio of areas is:
- A. Equal to side ratio
B. Square of side ratio
C. Same as perimeter ratio
D. None (B)

Explanation: The ratio of areas is the square of the ratio of corresponding sides.

4. In $\triangle PQR$, if $\angle PST = \angle PRQ$, then triangle PQR is:
- A. Right-angled
B. Isosceles
C. Scalene
D. Equilateral (B)

Explanation: Two equal angles indicate an isosceles triangle.

5. If $AD=AE$, $BD=BC$, and $CD=CA$ in $\triangle ABC$, then it is:
- A. Scalene
B. Isosceles
C. Equilateral
D. Right-angled (C)

Explanation: All sides are equal, making the triangle equilateral.

6. In similar triangles, the corresponding sides are:
- A. Equal
B. Proportional
C. Different
D. None (B)

Explanation: In similar triangles, corresponding sides are proportional.

7. The sum of angles in any triangle is:
- A. 180°
B. 360°
C. 90°
D. 270° (A)

Explanation: The sum of the interior angles of any triangle is always 180° .

8. In similar triangles, the ratio of perimeters is:
- A. The same as sides' ratio
B. Equal to angles
C. The square of sides' ratio
D. None (A)

Explanation: The ratio of the perimeters of similar triangles is equal to the ratio of their corresponding sides.

9. Two similar triangles have sides in ratio 2:3. The ratio of areas is:
- A. 2:3
B. 4:9
C. 6:9
D. 3:2 (B)

Explanation: The area ratio is the square of the sides' ratio, i.e., $\left(\frac{2}{3}\right)^2 = \frac{4}{9}$

10. If two triangles are similar, then the ratio of their corresponding sides is:
- A. Proportional
B. Equal
C. Both
D. None (A)

Explanation: In similar triangles, the corresponding sides are proportional.