

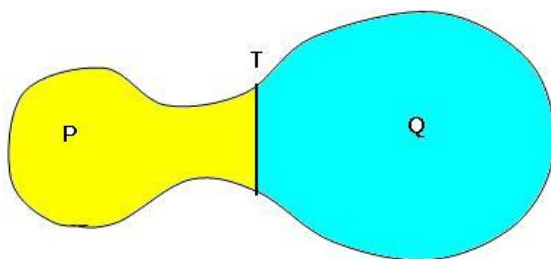
IX
Mathematics
Chapter 9: Area of Parallelograms and Triangles Quadrilaterals
Chapter Notes

Top Definitions

1. Any side of a parallelogram is called the base.
2. The length of perpendicular drawn from any point from the parallel sides to the base is called the (corresponding) altitude or height.
3. The part of the plane enclosed by a simple closed figure is called a planar region corresponding to that figure.
4. The magnitude or measure of that planar region is called its area.
5. Two figures are called congruent, if they have the same shape and the same size.
6. Area of a figure is a number (in same unit) associated with the part of the plane enclosed by the two properties.

Top Concepts

1. If two figures A and B are congruent, they must have equal areas.
2. Two figures having equal areas need not be congruent.
3. If a planar region formed by a figure T is made up of two non-overlapping planar regions formed by figures P and Q, then $ar(T) = ar(P) + ar(Q)$.

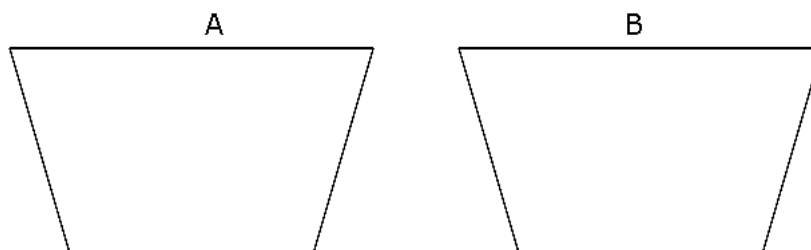


4. Two figures are said to be on the same base and between the same parallels, if they have a common base (side) and the vertices (or the vertex) opposite to the common base of each figure lie on a line parallel to the base.
5. Parallelograms on the same base and between the same parallels are equal in area.

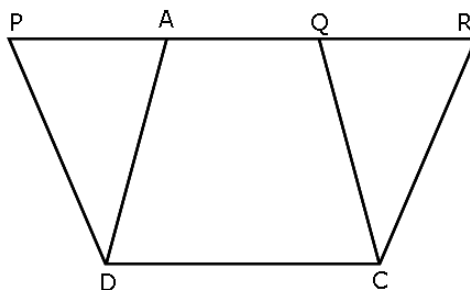
6. Area of a parallelogram is the product of its any side and the corresponding altitude.
7. Parallelograms on the same base or equal bases and between the same parallels are equal in area.
8. Parallelograms on the same base (or equal bases) and having equal areas lie between the same parallels.
9. Two triangles on the same base (or equal base) and between the same parallel are equal in area.
10. Area of triangle is half the product of its base (or any side) and the corresponding altitude (or height).
11. Two triangles with same base (or equal bases) and equal areas will have equal corresponding altitudes.
12. Two triangles having the same base (or equal bases) and equal areas lie between the same parallels.
13. Parallelograms on the same base (or equal bases) and having equal areas lie between the same parallels.
14. A median of a triangle divides it into triangles of equal areas.

Top Diagrams

1. Congruent Figures



2. Parallelograms on the same base and between the same Parallels



3. Triangles on the same base and between the same parallels

