11.2 Trapezoids, Rhombi, Kites

Traeziod:

Bases are parallel.

Height is distance between bases (length of perpendicular line between the bases).

Midsegment: m=(1/2)( )

Area of a Trapezoid Theorem

The area of a trapezoid is half the product of the sum of bases and the height.

Rhombus:

Quadrilateral with 4 congruent sides

Properties: Diagonals are perpendicular

Diagonals bisect each other

Area of a Rhombus Theorem:

Area of the rhombus is half the product of the diagonal lengths

Kite:

Two sets of consecutive congruent sides

Kite has perpendicular diagonals

Area of a Kite Theorem:

The area of a kite is half the product of the diagonal lengths.

Therefore: ANY quadrilateral (even a square) with perpendicular diagonals can use area formula

1. The perimeter of a rhombus is 52 cm. One of its diagonals is 24 cm. Find the area.
2. Find the area.
3. One diagonal of a kite is twice as long as the other diagonal. The area of the kite is 72.25 in squared. What are the lengths of the diagonals?