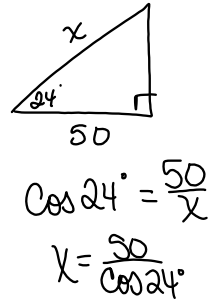


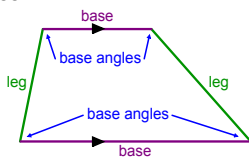
Trapezoids & Kites



title

Jan 28-8:28 AM

Trapezoid—a quadrilateral with exactly one pair of parallel sides



Bases—the parallel sides of a trapezoid

Legs—the nonparallel sides of a trapezoid

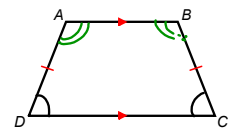
Base angles—two pairs of angles whose common side is a base of a trapezoid

trapezoid

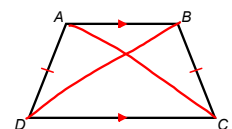
Isosceles trapezoid—a trapezoid with congruent legs

Properties

Each pair of base angles is congruent.



Diagonals are congruent.



isosceles trapezoid

Midsegment of a trapezoid—the segment that connects the midpoints of the legs

$\frac{10+20}{2} = 15$

Midsegment Theorem for Trapezoids

The midsegment of a trapezoid is parallel to each base and its length is one half the sum of the lengths of the bases.

midsegment

Find the indicated measure.

$\frac{360^\circ - 126^\circ}{2} = \frac{234^\circ}{2}$

$m\angle P = 117^\circ$

$m\angle Q = 117^\circ$

$m\angle S = 63^\circ$

$MN = \frac{7+12}{2} = 9.5$

examples

Kite—quadrilateral that has two pairs of consecutive congruent sides, but opposite sides are not congruent

kite

Properties of Kites

Diagonals are perpendicular.

The longer diagonal bisects the smaller diagonal and a pair of opposite angles.

Exactly one pair of opposite angles are congruent.

kites

Find the indicated measure.

$3^2 + 8^2 = c^2$
 $9 + 64 = c^2$
 $\sqrt{73} = c$

360
 $\frac{186}{2}$
 $\frac{174}{2}$
 $m\angle U = 87^\circ$

$WX = \sqrt{73}$
 8.54

$XY = 5$

Conclusion

1. What do you know about the trapezoid?
2. What do you know about the kite?
3. What do you know about the midsegment of a trapezoid?
4. Questions??

examples

Jan 24-6:52 PM

Assignment

Trapezoids and Kites

Wkst

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