

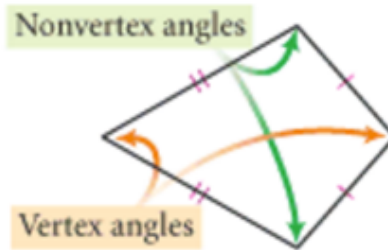
## Homework Check

1.  $360^\circ$
2.  $72^\circ$ ;  $60^\circ$
3. 15
4. 43
5.  $a = 108^\circ$
6.  $b = 45\frac{1}{3}^\circ$
7.  $c = 51\frac{3}{7}^\circ$ ;  $d = 115\frac{5}{7}^\circ$
8.  $e = 72^\circ$ ,  $f = 45^\circ$ ,  $g = 117^\circ$ ,  $h = 126^\circ$
9.  $a = 30^\circ$ ,  $b = 30^\circ$ ,  $c = 106^\circ$ ,  $d = 136^\circ$
10.  $a = 162^\circ$ ,  $b = 83^\circ$ ,  $c = 102^\circ$ ,  $d = 39^\circ$ ,  $e = 129^\circ$ ,  $f = 51^\circ$ ,  $g = 55^\circ$ ,  $h = 97^\circ$ ,  $k = 83^\circ$
17. Yes.  $\triangle RAC \cong \triangle DCA$  by SAS Congruence  
Conjecture.  $\overline{AD} \cong \overline{CR}$  by CPCTC.
18. Yes.  $\triangle DAT \cong \triangle RAT$  by SAS Congruence  
Conjecture.  $\angle D \cong \angle R$  by CPCTC.

## 5.3 - Kite and Trapezoid Properties

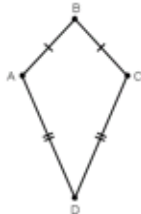
## What is a kite?

A kite is a quadrilateral with exactly two distinct pairs of congruent sides

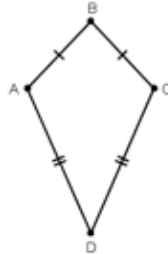


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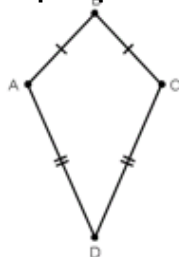
**Kite Angles Conjecture:** the non-vertex angles of a kite are congruent



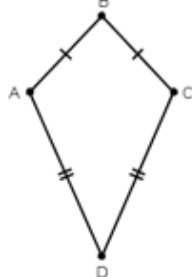
**Kite Diagonals Conjecture:** the diagonals of a kite are perpendicular



**Kite Diagonal Bisector Conjecture:** the diagonal connecting the vertex angles of a kite is the perpendicular bisector of the other diagonal

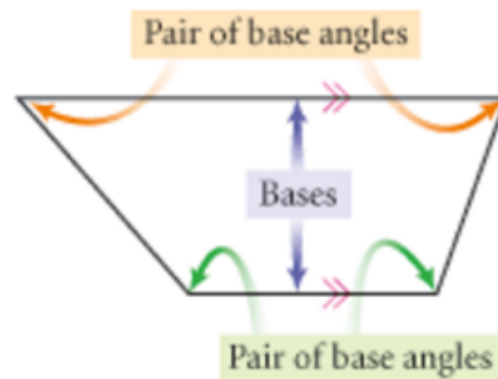


**Kite Angle Bisector Conjecture:** the vertex angles of a kite are bisected by a diagonal



What is a trapezoid?

- A quadrilateral with exactly one pair of parallel sides

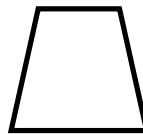


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**Trapezoid Consecutive Angles Conjecture:** the consecutive angles between the bases of a trapezoid are supplementary



**Isosceles Trapezoid Conjecture:** the base angles of an isosceles trapezoid are congruent



**Isosceles Trapezoid Diagonals Conjecture:** the diagonals of an isosceles trapezoid are congruent

