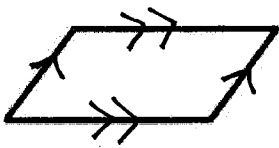

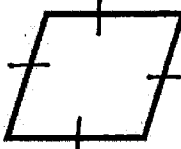
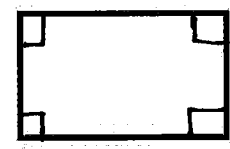


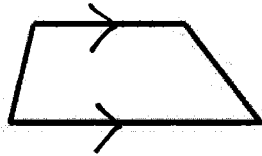
Quadrilaterals – Theorem Toolkit

<p><b>Parallelogram</b></p>  <p>Definition: A quadrilateral with two sets of parallel sides.</p> <p>Properties:</p> <ul style="list-style-type: none"> <li>• opposite angles <math>\cong</math></li> <li>• opposite sides <math>\cong</math></li> <li>• angles next to each other are supplementary.</li> <li>• diagonals bisect each other</li> </ul> <p><b>★ It's a TRAPEZOID</b></p>	<p><b>Kite</b></p>  <p>Definition: A quadrilateral with two pairs of consecutive <math>\cong</math> sides <del>that are adjacent</del>.</p> <p>Properties:</p> <ul style="list-style-type: none"> <li>• One diagonal bisects the other</li> <li>• One diagonal bisects a pair of angles and the other set of opposite angles <math>\cong</math></li> <li>• diagonals <math>\perp</math></li> </ul>
<p><b>Rhombus</b></p>  <p>Definition: A quadrilateral with four <math>\cong</math> sides.</p> <p>Properties:</p> <ul style="list-style-type: none"> <li>• diagonals bisect angles</li> <li>• diagonals <math>\perp</math></li> </ul> <p><b>★ It's a PARALLELOGRAM and a TRAPEZOID</b></p>	<p><b>Rectangle</b></p>  <p>Definition: A quadrilateral with four right angles.</p> <p>Properties:</p> <ul style="list-style-type: none"> <li>• diagonals <math>\cong</math></li> </ul> <p><b>★ It's a PARALLELOGRAM and a TRAPEZOID</b></p>

### Trapezoid

Definition:

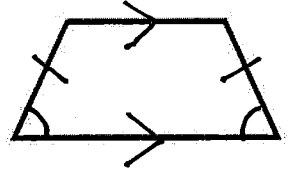
A quadrilateral with at least one pair of parallel sides.



### Isosceles Trapezoid

Definition:

A quadrilateral with at least one pair of parallel sides and  $\cong$  base angles.



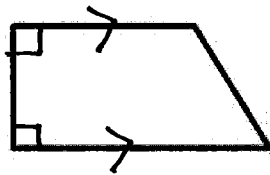
Properties:

- Two  $\cong$  sides

### Right Trapezoid

Definition:

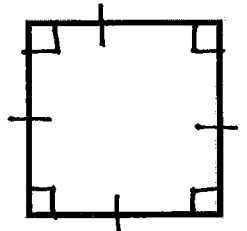
A quadrilateral with at least one pair of parallel sides and a pair of consecutive right angles.



### Square

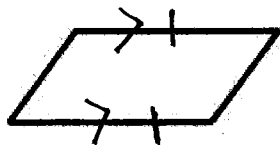
Definition:

A quadrilateral with four  $\cong$  sides and four right angles.



~~It's a PARALLELOGRAM, RHOMBUS, RECTANGLE, and TRAPEZOID~~

### Special Parallelogram Theorem

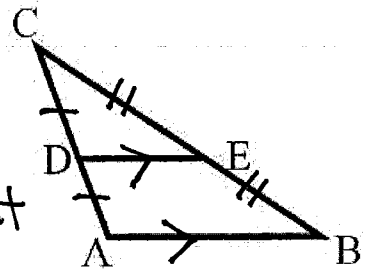


If a quadrilateral has one pair of  $\parallel$  and  $\cong$  sides, then it's a parallelogram.

### Midsegment

Definition:

$\overline{DE}$  is the midsegment



$$2DE = AB$$

$$\overline{DE} \parallel \overline{AB}$$