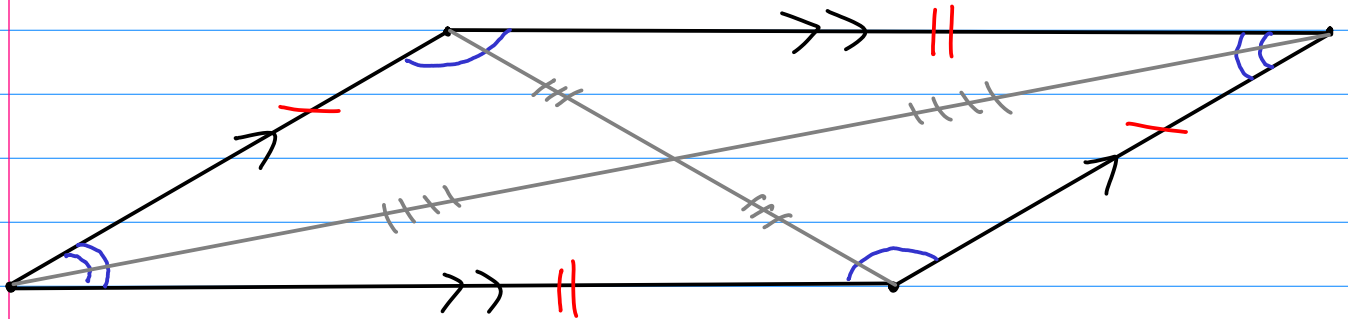
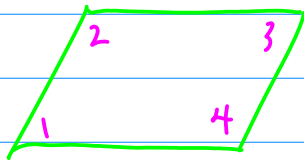
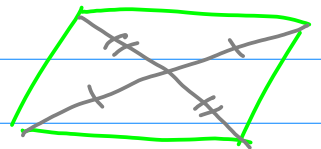
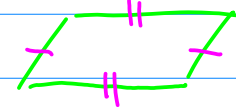
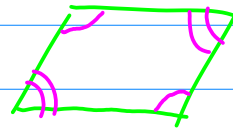


§5.5: Properties of parallelograms



In \square 's,

- opposite \angle 's are \cong
- " " "sides" "
- diagonals bisect each other
- consecutive \angle 's are supp. (sum to 180°)



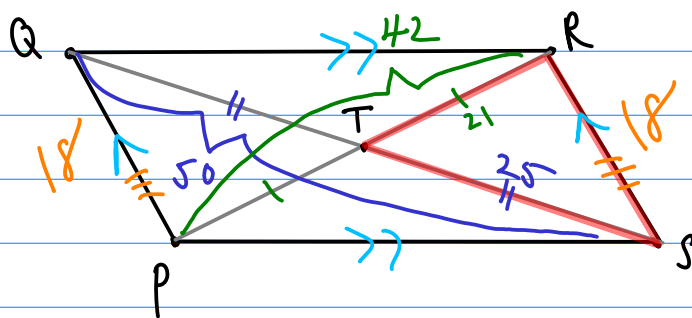
$$m\angle 1 + m\angle 2 = 180^\circ$$

$$m\angle 2 + m\angle 3 = 180^\circ$$

$$m\angle 3 + m\angle 4 = 180^\circ$$

$$m\angle 4 + m\angle 1 = 180^\circ$$

Ex:

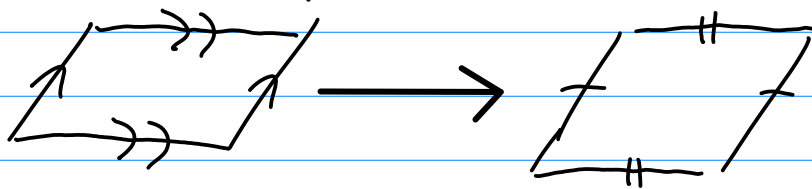


- Given: $QS = 50$
 $PR = 42$
 $PQ = 18$

Find perimeter of $\triangle RST$.

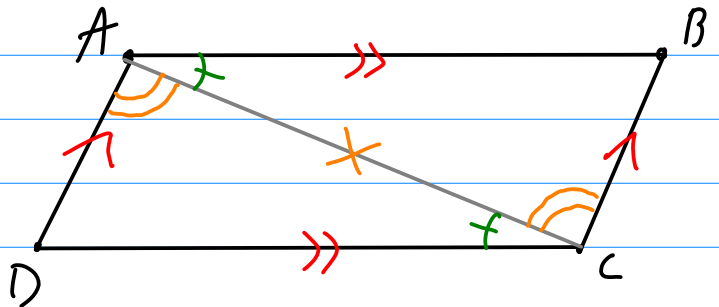
$$21 + 25 + 18 = 64$$

• Proof that opp. sides of a \square are \cong .



Given: $\square ABCD$

Prove: $\overline{AD} \cong \overline{BC}$ & $\overline{AB} \cong \overline{CD}$



<u>Statement</u>	<u>Reason</u>
1. $\square ABCD$	1. Given
2. $\overline{AD} \parallel \overline{BC}$; $\overline{AB} \parallel \overline{CD}$	2. Def'n of \square
3. Draw \overline{AC}	3. Construction
4. $\angle BAC \cong \angle DAC$; $\angle BCA \cong \angle DCA$	4. If 2 \parallel lines are cut by a transversal, then alt. int. \angle 's are \cong .
5. $\overline{AC} \cong \overline{AC}$	5. Reflexive
6. $\triangle BCA \cong \triangle DAC$	6. ASA
7. $\overline{AD} \cong \overline{BC}$; $\overline{AB} \cong \overline{CD}$	7. CPCTC

