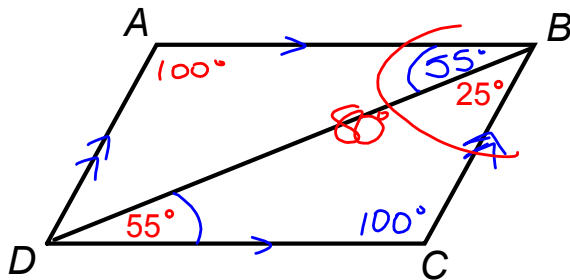


DO NOW

Given parallelogram $ABCD$, find $m \angle ABC$.



$$m \angle ABC = 80^\circ$$

Jan 25-8:42 AM

Properties of Parallelograms

Opposite sides \cong

Opposite sides \parallel
(create alternate interior angles!)

Opposite angles \cong

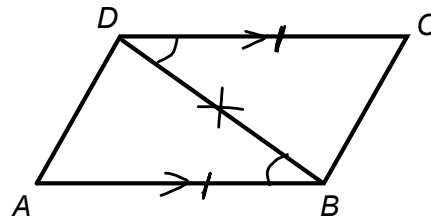
Diagonals bisect each other
(segments)

Consecutive angles are supplementary

Jan 25-8:52 AM

Given: ABCD is a parallelogram

Prove: $\triangle ABD \cong \triangle CDB$



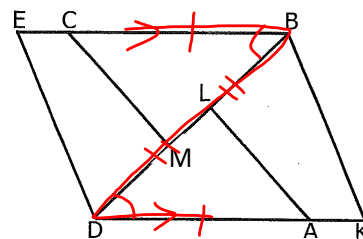
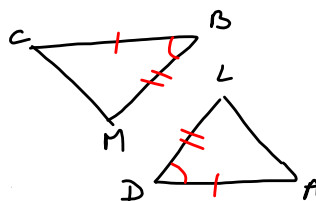
Statements	Reasons
1. ABCD is a parallelogram.	1. Given.
2. $\overline{DC} \parallel \overline{AB}$	2. Opp. sides of a parallelogram are \parallel
3. $\angle CDB \cong \angle ABD$	3. When lines are \parallel , alt. int \angle 's are \cong
4. $\overline{DC} \cong \overline{AB}$	4. Opp. sides of a p-gram are \cong
5. $\overline{DB} \cong \overline{DB}$	5. Reflexive property
6. $\triangle ABD \cong \triangle CBD$	6. SAS

Jan 25-9:14 AM

2) Given: Parallelogram DEBK, $\overline{BC} \cong \overline{DA}$, and $\overline{DL} \cong \overline{BM}$

Prove: $\triangle DLA \cong \triangle BMC$

SAS



Statements	Reasons
1. DEBK is a parallelogram, $\overline{BC} \cong \overline{DA}$ and $\overline{DL} \cong \overline{BM}$	1. Given
2. $\overline{BE} \parallel \overline{KD}$	2. In a parallelogram, opposite sides are \parallel
3. $\angle CBD \cong \angle ADB$	3. Alternate interior angles are when lines are parallel
4. $\triangle DLA \cong \triangle BMC$	4. SAS

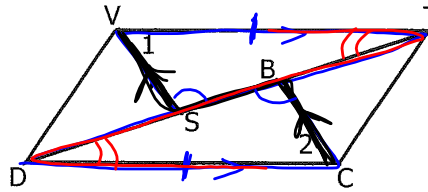
Jan 25-10:44 AM

3) Given: Parallelogram DCTV

$$\overline{BC} \parallel \overline{VS}$$

$\Delta \cong \Delta$ by AAS

Prove: $\angle 1 \cong \angle 2$



Statements	Reasons
1. $DCTV$ is a parallelogram, $\overline{BC} \parallel \overline{VS}$	1. Given
2. $\angle VST \cong \angle CBD$	2. If two lines are \parallel , alternate interior angles are \cong
3. $\overline{VT} \parallel \overline{CD}$	3. In a parallelogram, opposite sides are \parallel
4. $\angle VTS \cong \angle CDB$	4. If two lines are \parallel , alternate interior angles are \cong
5. $\overline{VT} \cong \overline{CD}$	5. In a parallelogram, opposite sides are \cong
6. $\triangle CDB \cong \triangle VTS$	6. AAS
7. $\angle 1 \cong \angle 2$	7. CPCTC

Jan 25-10:51 AM