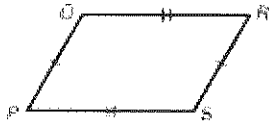


Independent Practice

Fill in the missing information about the parallelograms below

If a quadrilateral is a parallelogram, then its **opposite sides** are congruent.

$$\overline{OP} \cong \overline{RS} \text{ and } \overline{SP} \cong \overline{OR}$$



If a quadrilateral is a parallelogram, then its **opposite angles** are congruent.

$$\angle P \cong \angle R \text{ and } \angle O \cong \angle S$$



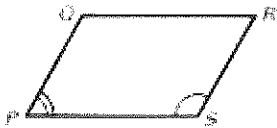
If a quadrilateral is a parallelogram, then its **consecutive angles** are supplementary.

$$m\angle P + m\angle Q = 180^\circ$$

$$m\angle Q + m\angle R = 180^\circ$$

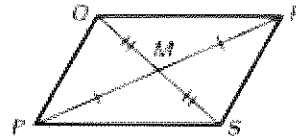
$$m\angle R + m\angle S = 180^\circ$$

$$m\angle S + m\angle P = 180^\circ$$

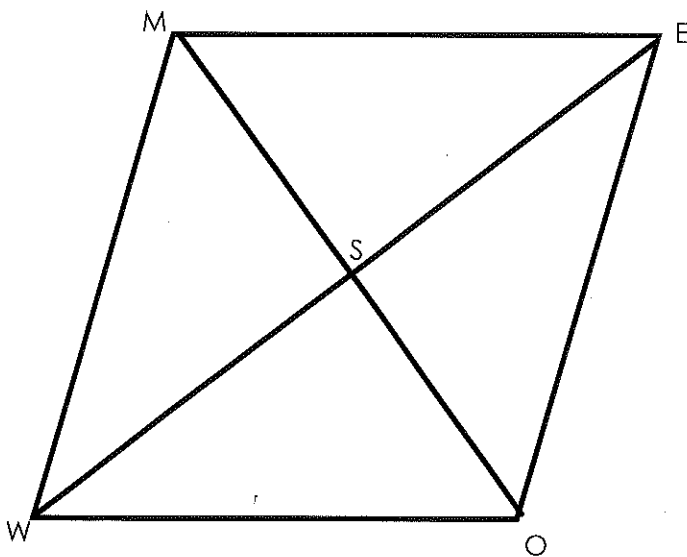


If a quadrilateral is a parallelogram, then its **diagonals bisect each other**.

$$\overline{QM} \cong \overline{MS} \text{ and } \overline{PM} \cong \overline{RM}$$



Parallelogram MEOW is pictured below. Fill in the missing information and state the property that you used to answer the question



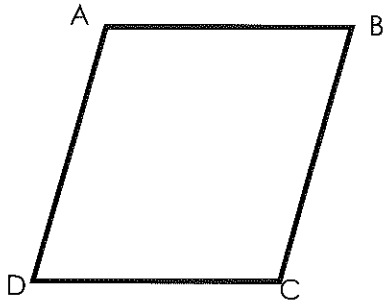
$ME \cong WO$, because _____
opposite sides are
congruent

$MW \parallel OE$, because _____
opposite sides are
parallel

$WS \cong SE$, because _____
diagonals bisect
each other

2

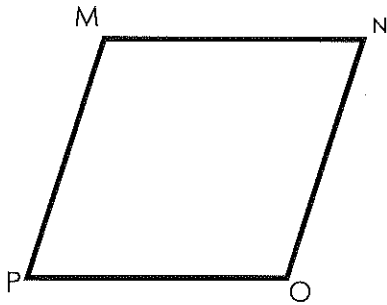
Given: In quadrilateral ABCD, $\angle B + \angle C = 180$ and $\angle A$ is supplementary to $\angle B$.
 Prove that ABCD is a parallelogram.



Proof

Quadrilateral ABCD is a parallelogram because Consecutive angles are supplementary

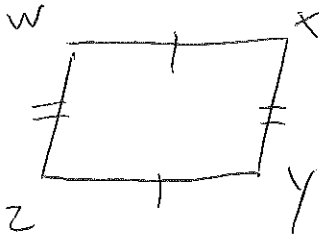
Given: In quadrilateral MNOP, $\overline{MP} \parallel \overline{NO}$ and $\overline{MN} \parallel \overline{PO}$.
 Prove that MNOP is a parallelogram.



Proof

Quad. ABCD is a Parallelogram b/c opp. sides are parallel

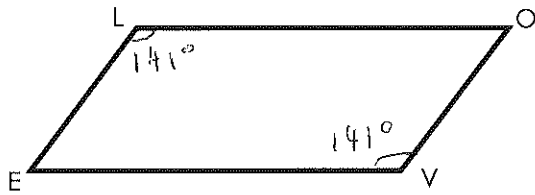
Given: In quadrilateral WXYZ, $\overline{WX} \cong \overline{ZY}$ and $\overline{WZ} \cong \overline{XY}$.
 Prove that WXYZ is a parallelogram.



Proof

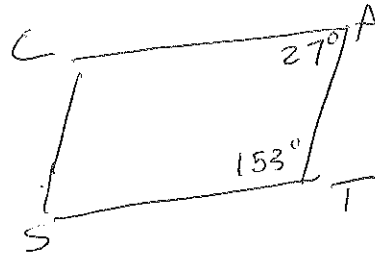
Quad WXYZ is a Parallelogram b/c opp. sides are \cong

In parallelogram LOVE, $\angle L = 141^\circ$. Find the $m\angle V$ and justify your answer.



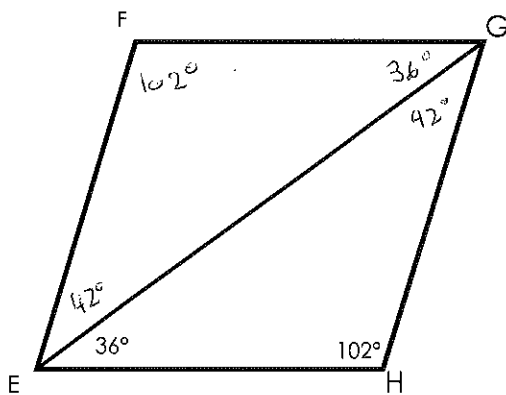
The $m\angle V = 141^\circ$, because opposite \angle 's are \cong

In parallelogram CATS, $\angle A = 27^\circ$. Find the $m\angle T$ and justify your answer.



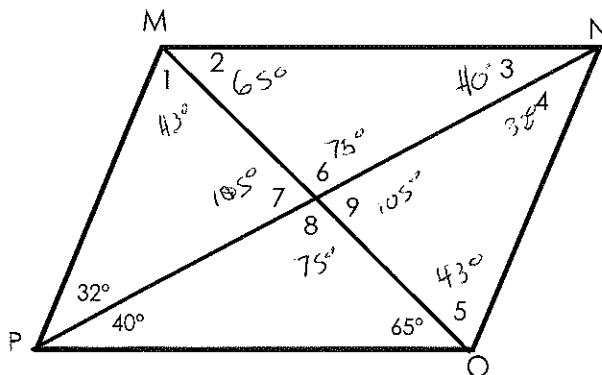
The $m\angle T = 153^\circ$, because consecutive angles are supplementary

In parallelogram FEHG, $\angle GEH = 36^\circ$ and $\angle EHG = 102^\circ$. Find the measures of the angles in the chart below. Justify your answer.



Angle	Measure	Reason
$\angle EFG$	102°	opposite \angle 's are \cong
$\angle FGE$	36°	Alt. Int \angle 's are \cong
$\angle FEG$	42°	Consecutive \angle 's are supp.
$\angle EGH$	42°	Alt Int \angle 's are \cong

In parallelogram MNOP, $\angle MOP = 65^\circ$, $\angle NPO = 40^\circ$ and $\angle MPN = 32^\circ$. Find the measures of the angles in the chart below. Justify your answer.



Angle	Measure	Reason
$\angle 1$		
$\angle 2$		
$\angle 3$		
$\angle 7$		
$\angle 8$		
$\angle 9$		
$\angle 10$		
$\angle 11$		
$\angle 12$		