Name_____ Date_____

Quadrilateral Proofs

If you know a quadrilateral is a parallelogram, list five facts that we know about the parallelogram.

1.

2.

3.

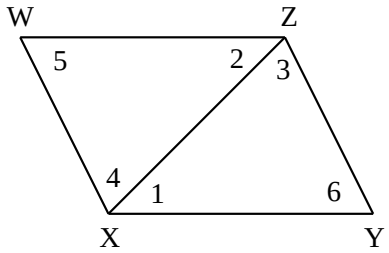
4.

5.

Complete the following proof

Given Quad XYZW is a parallelogram

Prove: Consecutive angles are supplementary

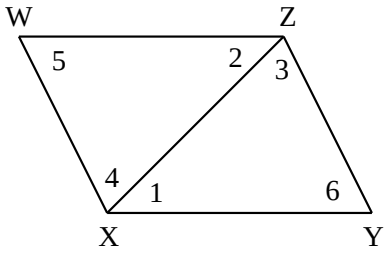


	Statements	Reasons
1.	Quad XYZW is a parallelogram	1. Given
2.	$\overline{XY} \parallel \overline{ZW}$	2. _____
3.	$\angle WZY$ supp. $\angle ZYX$	3. _____

Complete the following proof

Given Quad XYZW is a parallelogram

Prove: Opposite sides are congruent & Opposite angles are congruent



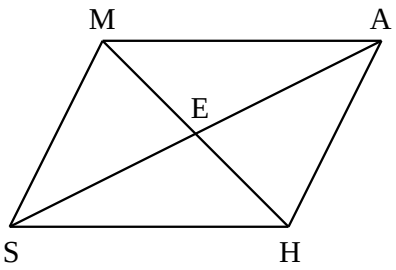
	Statements	Reasons
1.	Quad XYZW is a parallelogram	1. Given
2.	$\overline{XY} \parallel \overline{ZW}$	2. _____
3.	$\angle 1 \cong \angle 2$	3. _____
4.	$\overline{WX} \parallel \overline{ZY}$	4. _____
5.	$\angle 3 \cong \angle 4$	5. _____
6.	$\overline{ZX} \cong \overline{ZX}$	6. _____
7.	$\Delta WZX \cong \Delta YXZ$	7. _____
8.	_____	8. _____
9.	_____	9. _____
10.	_____	10. _____

Complete the following proof

Given: Parallelogram SHAM

Prove: $\overline{SA}$ and $\overline{MH}$ bisect each other

(diagonals bisect each other)

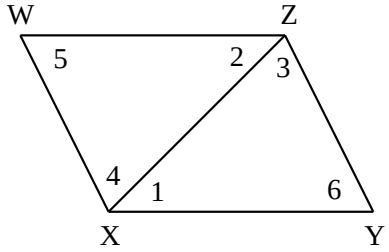


	Statements	Reasons
1.	Parallelogram SHAM	1. Given
2.	$\overline{AM} \parallel \overline{SH}$	2. _____
3.	$\angle AMH \cong \angle SHM$ $\angle MAS \cong \angle HSA$	3. _____
4.	$\overline{AM} \cong \overline{SH}$	4. _____
5.	$\Delta AME \cong \Delta SHE$	5. _____
6.	$\overline{EM} \cong \overline{EH}$ $\overline{ES} \cong \overline{EA}$	6. _____
7.	E is the midpoint of $\overline{SA}$ E is the midpoint of $\overline{MH}$	7. _____
8.	$\overline{SA}$ and $\overline{MH}$ bisect each other	8. _____

Complete the following proof

Given: Quad XYZW
$\Delta WZX \cong \Delta YXZ$

Prove: Quad XYZW is a parallelogram

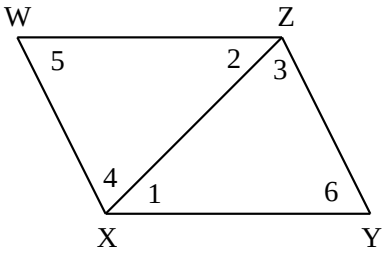


	Statements	Reasons
1.	$\Delta WZX \cong \Delta YXZ$	1. Given
2.	$\angle 1 \cong \angle 2$	2. _____
3.	$\overline{XY} \parallel \overline{ZW}$	3. _____
4.	$\angle 3 \cong \angle 4$	4. _____
5.	$\overline{WX} \parallel \overline{ZY}$	5. _____
6.	Quad XYZW is a parallelogram	6. _____

Complete the following proof

Given Opposite sides are congruent

Prove: Quad XYZW is a parallelogram

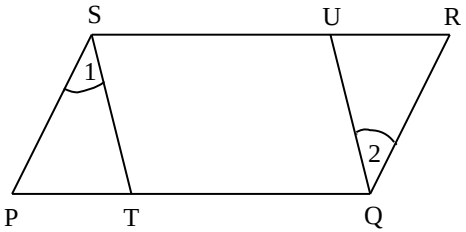


	Statements	Reasons
1.	$\overline{WZ} \cong \overline{XY}$	1. Given
2.	$\overline{WX} \cong \overline{ZY}$	2. Given
3.	$\overline{ZX} \cong \overline{ZX}$	3. _____
4.	$\Delta WZX \cong \Delta YXZ$	4. _____
5.	$\angle 1 \cong \angle 2$	5. _____
6.	$\overline{XY} \parallel \overline{ZW}$	6. _____
7.	$\angle 3 \cong \angle 4$	7. _____
8.	$\overline{WX} \parallel \overline{ZY}$	8. _____
9.	Quad XYZW is a parallelogram	9. _____

Complete the following proofs

Given: $\square$ PQRS
$\angle 1 \cong \angle 2$

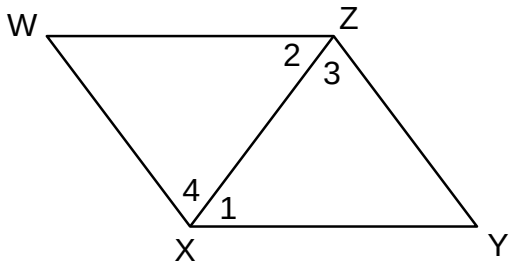
Prove: $\overline{ST} \cong \overline{QU}$



	Statements	Reasons
1.	_____	1. _____
2.	_____	2. _____
3.	_____	3. _____
4.	_____	4. _____
5.	_____	5. _____
6.	_____	6. _____

Given: $\overline{XY} \cong \overline{ZW}$
$\overline{XY} \parallel \overline{ZW}$

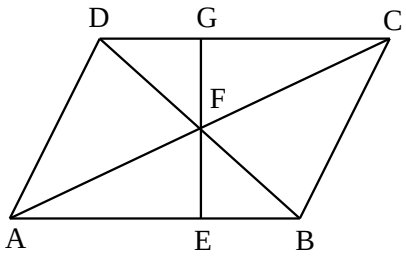
Prove: Quad XYZW is a parallelogram



	Statements	Reasons
1.	$\overline{XY} \cong \overline{ZW}$	1. Given
2.	$\overline{XY} \parallel \overline{ZW}$	2. Given
3.	_____	3. _____
4.	_____	4. _____
5.	_____	5. _____
6.	_____	6. _____
7.	_____	7. _____
8.	_____	8. _____

Given: Parallelogram ABCD

Prove: $\overline{EF} \cong \overline{FG}$



	Statements	Reasons
1.	Parallelogram ABCD	1. Given
2.	$\overline{AB} \cong \overline{CD}$	2. _____
3.	$\angle DFC \cong \angle BFA$	3. _____
4.	$\overline{CD} \parallel \overline{AB}$	4. _____
5.	$\angle CAB \cong \angle DCA$	5. _____
6.	$\Delta CDF \cong \Delta ABF$	6. _____
7.	$\overline{CF} \cong \overline{AF}$	8. _____
8.	$\angle GFC \cong \angle AFE$	9. _____
9.	$\Delta GFC \cong \Delta EFA$	10. _____
10.	$\overline{EF} \cong \overline{FG}$	11. _____