

Geometry CC – Mr. Valentino
 Unit 9 Lesson 5: Proofs with Quadrilaterals

Name: _____
 Date: _____ Per: _____

Aim: How can we use the properties of quadrilaterals for proofs?

Do Now: List the 5 properties of a parallelogram (again !!!):

- 2
1. opposite \sphericalangle 's are \cong
 2. diagonals bisect each other
 3. opposite sides are \cong
 4. opposite sides are \parallel
 5. consecutive \sphericalangle 's are supp.



What makes a rectangle a special type of parallelogram?

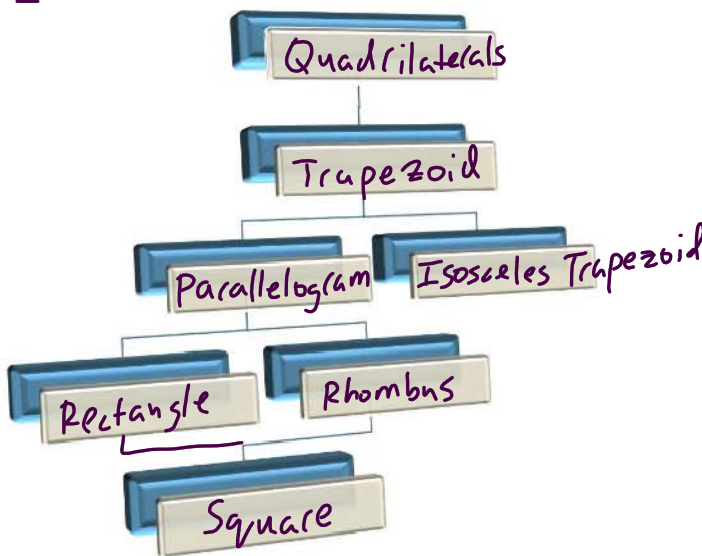
- diagonals are \cong
- four right \sphericalangle 's (all \cong)

What makes a rhombus a special type of parallelogram?

- four \cong sides
- diagonals bisect angles
- diagonals are \perp

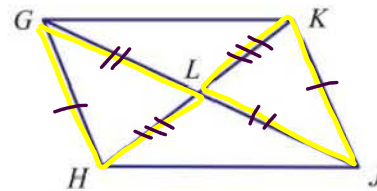
What makes a square a special type of rhombus?

- four right \sphericalangle 's
- diagonals are \cong



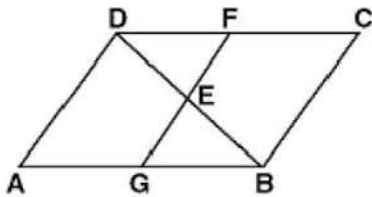
1.

Given: Parallelogram GHJK
 Prove: $\triangle GLH \cong \triangle JLK$



Statements	Reasons
① Parallelogram GHJK	① Given
② $GH \cong KJ$	② Opposite sides of a parallelogram are \cong
③ $GL \cong JL$ $HL \cong KL$	③ In parallelograms, diagonals bisect each other
④ $\triangle GLH \cong \triangle JLK$	④ SSS \cong SSS

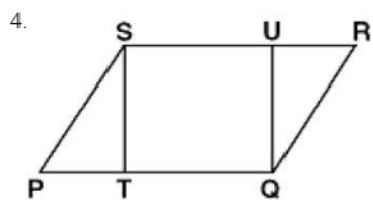
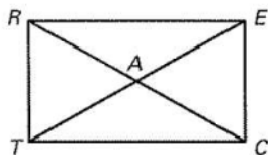
2.



Given: ABCD is a parallelogram
 FG bisects DB

Prove: $\overline{FE} \cong \overline{EG}$

3. **Given:** Rectangle $RECT$
Prove: $\triangle ART \cong \triangle ACE$



Given: PQRS is a parallelogram
 $ST \perp PQ$, $QU \perp SR$

Prove: $ST \cong QU$

5. Given: Rhombus ABCD with diagonals meeting at E

Prove: $\triangle AEB \cong \triangle CEB$

