Week of Feb. 24-28: Geometry Chapter 7 Continue

Monday - Section 7.2 Discuss drawing from last week on parallelogram (a special quadrilateral) 5 properties. Know them. Use them such as in pg 113 of soft book to determine missing values.

Tuesday - Section 7.3 Discuss that these 5 properties also work in reverse to prove you have a parallelogram. Use to make more drawings to show it is true and pg. 115 for examples.

Wednesday - Use resource book = extra practice and reteaching pages for more practice work today and finish for homework.

Thursday - Section 7.4 on special parallelograms of rectangle, rhombus, and square with their added properties. Use drawings again as well as dynamic classroom explore it online drawings.

https://edpuzzle.com/media/67b4a83c3493ab174591478a Watch together to copy down examples

Friday - Work day on resource book - extra practice and reteaching pages for section 7.4

Week Section/Objectives

Section 7.2: Properties of Parallelograms

Common Core State Standards: G.CO.C.11
Learning Target: Prove and use properties of parallelograms.
Success Criteria

- Prove properties of parallelograms.
- Use properties of parallelograms.
- Solve problems involving parallelograms in the coordinate plane.

Vocabulary: parallelogram

Section 7.3: Proving That a Quadrilateral Is a Parallelogram

Common Core State Standards: G.CO.C.11
Learning Target: Prove that a quadrilateral is a parallelogram.
Success Criteria

- Identify features of a parallelogram.
- Prove that a quadrilateral is a parallelogram.
- Find missing lengths that make a quadrilateral a parallelogram.
- Show that a quadrilateral in the coordinate plane is a parallelogram.

Section 7.4: Properties of Special Parallelograms

**Common Core State Standards:** G.CO.C.11
Learning Target: Explain the properties of special parallelograms.
Success Criteria

- Identify special quadrilaterals.
- Explain how special parallelograms are related.
- Find missing measures of special parallelograms.
- Identify special parallelograms in a coordinate plane.

Vocabulary: rhombus, rectangle, square

CONCEPT SUMMARY
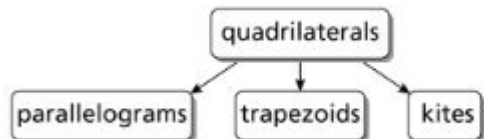
Ways to Prove a Quadrilateral Is a Parallelogram

|	
1. Show that both pairs of opposite sides are parallel. *(Definition)*	
2. Show that both pairs of opposite sides are congruent. *(Parallelogram Opposite Sides Converse)*	
3. Show that both pairs of opposite angles are congruent. *(Parallelogram Opposite Angles Converse)*	
4. Show that one pair of opposite sides are parallel and congruent. *(Opposite Sides Parallel and Congruent Theorem)*	
5. Show that the diagonals bisect each other. *(Parallelogram Diagonals Converse)*	

Summary sheet

Summary Sheet Quadrilateral Properties

PARALLELOGRAMS (rectangles, squares, and rhombi):

1) Opposite sides of a parallelogram are congruent.
2) Opposite angles of a parallelogram are congruent.
3) Consecutive angles in a parallelogram are supplementary.
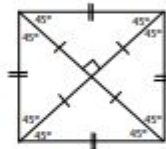4) The diagonals of a parallelogram bisect each other.
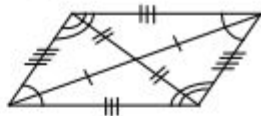
RECTANGLES:

1) Opposite sides are congruent (they equal each other).
2) Opposite angles are congruent (they equal each other).
3) Consecutive angles are supplementary (they add up to 180).
4) Diagonals bisect each other (the parts are equal).
5) Diagonals are congruent (they equal each other).
6) All four corner angles are 90°.
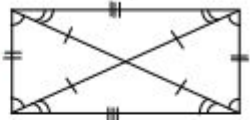
SQUARES:

1) Opposite sides are congruent (they equal each other).
2) Opposite angles are congruent (they equal each other).
3) Consecutive angles are supplementary (they add up to 180).
4) Diagonals bisect each other (the parts are equal).
5) Diagonals are congruent (they equal each other).
6) All four corner angles are 90°.
7) Diagonals perpendicular (the form right angles in the middle).
8) Diagonals bisect angles (the angles equal to each other).

RHOMBI:

1) Opposite sides are congruent (they equal each other).
2) Opposite angles are congruent (they equal each other).
3) Consecutive angles are supplementary (they add up to 180).
4) Diagonals bisect each other (the parts are equal).
5) Diagonals perpendicular (the form right angles in the middle).
6) Diagonals bisect angles (the angles are equal to each other).
7) All four sides are congruent.
8) The diagonals are NOT congruent.
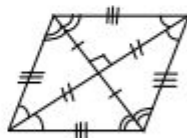
ISOSCELES TRAPEZOIDS:

**Median = ½ (base + base)**

1) Lower two base angles are congruent (they equal each other).
2) Upper two base angles are congruent (they equal each other).
3) The diagonals are congruent (they equal each other).
4) opposite angles are supplementary (they add up to 180).

Kite

1) Two pairs of consecutive sides congruent, but opposite sides not congruent
2) Diagonals perpendicular.
3) Exactly one pair of angles congruent.
4) One pair of angles bisected.
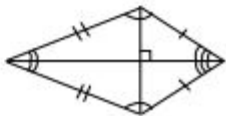
SUMMARY CHARTS:

Special Quadrilateral	Diagonals		Diagonals Bisect	
	Congruent	Perpendicular	Each Other	Angles
Parallelogram	Sometimes	Sometimes	Always	Sometimes
Rectangle	Always	Sometimes	Always	Sometimes
Rhombus	Sometimes	Always	Always	Always
Square	Always	Always	Always	Always
Trapezoid	Sometimes	Never	Never	Never
Isosceles Trapezoid	Always	Never	Never	Never
Kite	Never	Always	Only one diagonal	Only one angle

Property	Rectangle	Rhombus	Square
1. All the properties of a parallelogram?	Yes	Yes	Yes
2. Equiangular (4 right corner angles?)	Yes	No	Yes
3. Equilateral (4 congruent sides?)	No	Yes	Yes
4. Diagonals bisect angles?	No	Yes	Yes
5. Diagonals congruent?	Yes	No	Yes
6. Diagonals perpendicular?	No	Yes	Yes

Never

sometimes / always

Quadrilateral — Sum of angles is 360

2 pairs of parallel — Parallelogram

One pair of parallel sides — Trapezoid

4 right angles — Rectangle

4 congruent sides — Rhombus

2 congruent legs — Isosceles Trapezoid

4 right angles and 4 congruent sides — Square

No parallel sides 2 pair consecutive sides congruent — Kite