

CHAPTER 10:
Quadrilaterals
 Cornell Notes/Summary Sheet

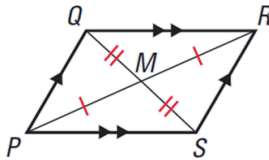
Name: _____
 Period: _____
*Turn this in on the day of the test.
 This is an assignment grade.*

Lesson 10.2: Big Ideas

- Definition of parallelogram
- Properties of Parallelograms
- Parallelogram/Congruent-Parallel Side Theorem

See page 829 of the Chapter 10 Summary.

Your Notes



Lesson 10.1: Big Ideas

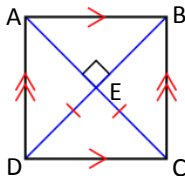
- Perpendicular/Parallel Line Theorem
- Definition of square
- Properties of squares
- Definition of rectangle
- Properties of rectangles
- Area formulas for squares & rectangles

See pages 827 & 828 of the Chapter 10 Summary.

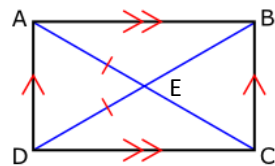
Your Notes

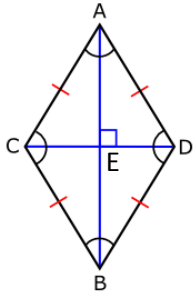
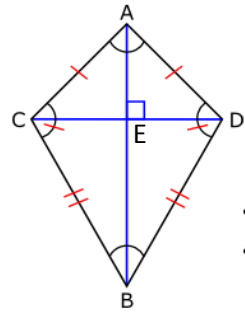
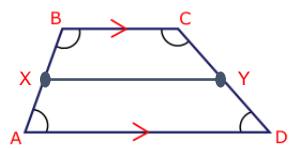
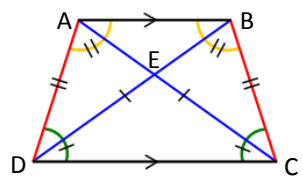
If two lines are perpendicular to the same line, then the two lines are parallel to each other.

SQUARES



RECTANGLES



<p>Lessons 10.2 & 3: Big Ideas</p> <ul style="list-style-type: none"> • Definition of rhombus • Properties of rhombi • Definition of kite • Properties of kites • Area formulas for rhombi & kites <p><i>See page 830 of the Chapter 10 Summary.</i></p>	<p>Your Notes</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>RHOMBI</p>  </div> <div style="width: 45%;"> <p>KITES</p>  </div> </div>	
<p>Lesson 10.3: Big Ideas</p> <ul style="list-style-type: none"> • Definition of trapezoid & isosceles trapezoid • Properties of trapezoids & isosceles trapezoids • Midsegment of a trapezoid • Area formula for trapezoids <p><i>See page 831 of the Chapter 10 Summary</i></p>	<p>Your Notes</p> <p>TRAPEZOID</p> 	<p>ISOSCELES TRAPEZOID</p> 
<p>Lessons 10.4 & 5: Big Ideas</p> <ul style="list-style-type: none"> • Sum of the interior angles & exterior angles of a polygon • Regular polygons & their angle measures <p><i>See pages 831 & 832 of the Chapter 10 Summary.</i></p>	<p>Your Notes</p>	

Refer to the Chapter 10 Summary on pages 827 – 835 of your Carnegie Text

FORMULAS & THE COORDINATE PLANE

Formula	When to Use it
Distance Formula: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	To determine whether... <ul style="list-style-type: none"> • Sides are congruent • Diagonals are congruent
Midpoint Formula: $(x_m, y_m) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$	To determine... <ul style="list-style-type: none"> • The coordinates of a midpoint of a side • Whether diagonals bisect each other
Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$	To determine whether... <ul style="list-style-type: none"> • Opposite sides are parallel • Diagonals are perpendicular • Sides are perpendicular

QUADRILATERAL	PROVE:
PARALLELOGRAM	<ul style="list-style-type: none"> • Both pairs of opposite sides are parallel (definition) • Both pairs of opposite sides are congruent • One pair of opposite sides are parallel and congruent • Diagonals bisect each other
RECTANGLE	<ul style="list-style-type: none"> • Both pairs of opposite sides are congruent and all four angles are right angles (definition) Or...first prove it's a parallelogram, and then prove... <ul style="list-style-type: none"> • The diagonals are congruent • Two consecutive sides are perpendicular
RHOMBUS	<ul style="list-style-type: none"> • All four sides are congruent (definition) Or...first prove it's a parallelogram, and then prove... <ul style="list-style-type: none"> • The diagonals are perpendicular
SQUARE	<ul style="list-style-type: none"> • All four angles are right angles and all four sides are congruent (definition) Or...prove it's a rectangle AND a rhombus
TRAPEZOID	<ul style="list-style-type: none"> • Only one pair of sides are parallel (definition)
ISOSCELES TRAPEZOID	Prove it's a trapezoid AND... <ul style="list-style-type: none"> • The non-parallel sides are congruent • The diagonals are congruent
KITE	<ul style="list-style-type: none"> • Two pairs of consecutive sides are congruent and the opposite sides are not congruent (definition)

BESIDES THE TEXT AND THIS SUMMARY SHEET, CHECK OUT THOSE ADDITIONAL RESOURCES AVAILABLE ON MS. SCHULTZ'S WEBSITE: WWW.SCHULTZJEN.WEEBLY.COM

Refer to the Chapter 10 Summary on pages 827 – 835 of your Carnegie Text

<p>Vertical angles are congruent. <i>Hint: Look for a "bow tie."</i></p>	<p>RIGHT ANGLES ARE CONGRUENT.</p>
<p>Definition of bisects If a ray bisects an angle, then it divides the angle into two congruent angles.</p>	<p>Definition of perpendicular (\perp) If two lines are perpendicular, then they intersect and form right angles.</p>
<p>Definition of midpoint If a point is a midpoint of a segment, then it divides the segment into two congruent segments.</p>	<p>Definition of isosceles triangle If at least two sides of a triangle are congruent, then the triangle is an isosceles triangle.</p>
<p>Isosceles Triangle Base Angle Theorem If two sides of a triangle are congruent, then the angles opposite these sides are congruent.</p>	<p>Isosceles Triangle Base Angle Converse Theorem If two angles of a triangle are congruent, then the sides opposite these angles are congruent.</p>
<p>Reflexive Use with shared sides and shared angles.</p>	<p>TRANSITIVE PROPERTY If angles (or segments) are congruent to the same (or congruent) angle (or segment), then they are congruent to each other.</p>
<p>Segment Addition Property If a segment (or congruent segments) is added to two congruent segments, the sums are congruent.</p>	<p>angle addition property If an angle (or congruent angles) is added to two congruent angles, the sums are congruent.</p>
<p>Segment Subtraction Property If a segment (or congruent segments) is subtracted from two congruent segments, the differences are congruent.</p>	<p>Angle Subtraction Property If an angle (or congruent angles) is subtracted from two congruent angles, the differences are congruent.</p>
<p>ALTERNATE INTERIOR ANGLES THEOREM If two parallel lines are cut by a transversal, each pair of alternate interior angles are congruent.</p>	<p>Converse of the Alternate Interior Angles Theorem If two lines and a transversal form alternate interior angles that are congruent, then the two lines are parallel.</p>
<p>Corresponding Angles Postulate If two parallel lines are cut by a transversal, each pair of corresponding angles are congruent.</p>	<p>Converse of the Corresponding Angles Postulate If two lines and a transversal form corresponding angles that are congruent, then the two lines are parallel.</p>
<p>SAME-SIDE INTERIOR ANGLES THEOREM If two parallel lines are cut by a transversal, each pair of same-side interior angles are supplementary.</p>	<p>Converse of the Same-Side Interior Angles Theorem If two lines and a transversal form same-side interior angles that are supplementary, then the two lines are parallel.</p>
<p>Alternate Exterior Angles Theorem If two parallel lines are cut by a transversal, each pair of alternate exterior angles are congruent.</p>	<p>Parallelogram/Congruent-Parallel Side Theorem If one pair of opposite sides of a quadrilateral are parallel and congruent, then it's a parallelogram.</p>
<p>Definition of Parallelogram A parallelogram is a quadrilateral with both pairs of opposite sides parallel.</p>	<p>PERPENDICULAR/PARALLEL LINE THEOREM If two lines are perpendicular to the same line, then the two lines are parallel to each other.</p>
<p>DEFINITION OF SQUARE A square is a quadrilateral with four right angles and all sides congruent.</p>	<p>Definition of Rectangle A rectangle is a quadrilateral with opposite sides congruent and with four right angles.</p>
<p>Definition of Rhombus A rhombus is a quadrilateral with all sides congruent.</p>	<p>DEFINITION OF KITE A kite is a quadrilateral with two pairs of consecutive congruent sides with opposite sides that are not congruent.</p>
<p>Definition of Trapezoid A trapezoid is a quadrilateral with exactly one pair of parallel sides.</p>	<p>DEFINITION OF ISOSCELES TRAPEZOID An isosceles trapezoid is a trapezoid with congruent non-parallel sides.</p>

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