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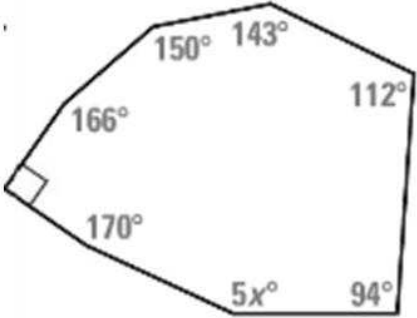
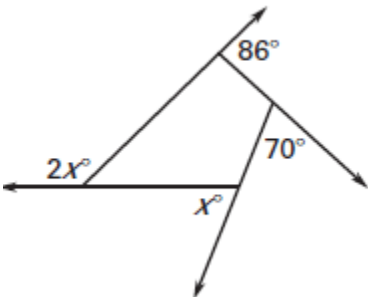
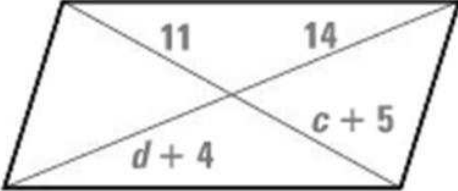
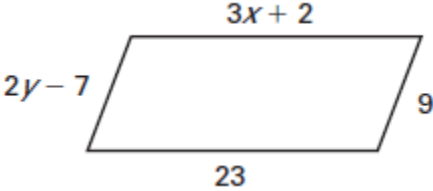
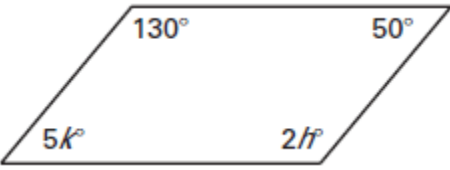
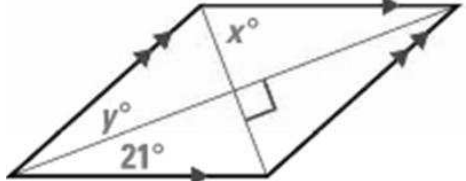
Chapter 8 Polygons and Quadrilaterals Review and Study Guide

- Things to Know (use your notes, homework, checkpoint, textbook as well as flashcards at <http://quizlet.com/4526962/geometry-chapter-8-polygons-quadrilaterals-flashcards-flash-cards/>) - link is on my web site!). Study quadrilateral graphic organizer (another copy is on my web site if needed).
 - Polygons:
 - concave (contains reflex angle); convex (does not)
 - regular polygons equilateral and equiangular
 - sum of interior angles of a convex n-gon: $180(n - 2)$
 - sum of exterior angles of a convex n-gon: 360°
 - measure of an interior angle in a regular n-gon: $\frac{180(n - 2)}{n}$
 - OR: $180 - \text{measure of exterior angle}$
 - measure of an exterior angle of a regular n-gon: $\frac{360}{n}$
 - Parallelograms:
 - opposite sides parallel;
 - opposite sides congruent;
 - opposite angles congruent;
 - consecutive angles supplementary;
 - diagonals bisect each other
 - diagonals form two congruent triangles
 - Rhombus:
 - All the properties of a parallelogram plus...
 - Four congruent sides
 - Diagonals bisect the angles
 - Diagonals are perpendicular
 - Rectangle:
 - All the properties of a parallelogram plus...
 - Four right angles
 - Diagonals are congruent
 - Square
 - All the properties of a parallelogram, rhombus, and rectangle
 - Trapezoid
 - OAOO pair of parallel sides
 - Isosceles Trapezoid
 - Properties of trapezoid plus...
 - Legs (non-parallel sides) are congruent

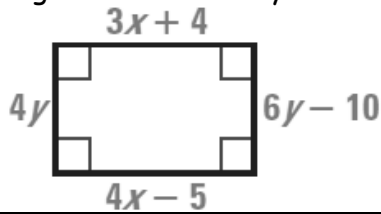
- Base angles are congruent
- Diagonals are congruent
- Opposite angles supplementary
- Midsegment parallel to bases and length is half the sum of the bases
- Kite
 - Two pairs of consecutive congruent sides, but opposite sides are not congruent
 - One set of congruent opposite angles (between non-congruent sides)
 - Diagonals are perpendicular

In text, see pp. 560 - 564, and pp. 910-911 for additional study problems. **DO NOT LIMIT YOUR STUDYING TO PROBLEMS IN THIS STUDY GUIDE!**

Example problems:

<p>1) Find the sum of the measures of the interior angles of the indicated convex polygon: a) hexagon b) nonagon c) 16-gon</p>	<p>2) The sum of the measures of the interior angles of a convex polygon is given. Classify the polygon by the number of sides. a) 540° b) 4140° c) 3060°</p>
<p>3) Each interior angle of a regular n-gon has the following measure; how many sides does it have? a) 135° b) 150° c) 108°</p>	<p>4) Each exterior angle of a regular n-gon has the following measure; how many sides does it have? a) 90° b) 40° c) 20°</p>
<p>5) Find x.</p> 	<p>6) Find x.</p> 
<p>7) Find c and d in the parallelogram.</p> 	<p>8) Find x and y in the parallelogram.</p> 
<p>9) Find k and h in the parallelogram.</p> 	<p>10) Classify the quadrilateral. Then find the missing values of x and y.</p> 

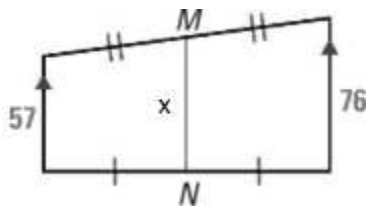
11) Classify the quadrilateral. Then find the missing values of x and y .



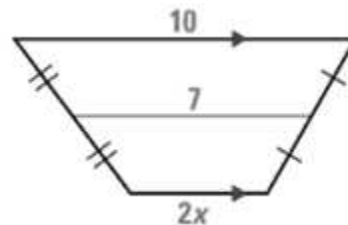
12) For any rhombus $CMXZ$, decide if the statement is always, sometimes, or never true:

- a) $\overline{CM} \cong \overline{MX}$ b) $\angle Z \cong \angle M$ c) $\overline{ZM} \cong \overline{CX}$
 d) $\angle CMZ \cong \angle XMZ$ e) $\overline{ZM} \perp \overline{CX}$

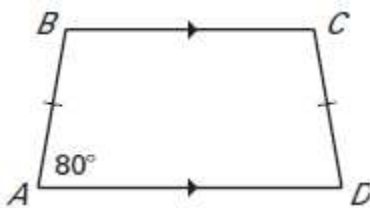
13) Find the value of x .



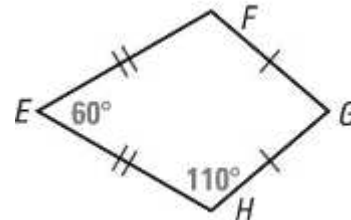
14) Find the value of x .



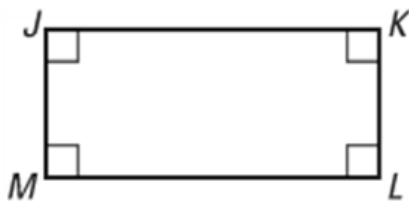
15) Find the unknown angles.



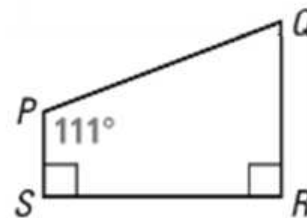
16) Find the unknown angles.



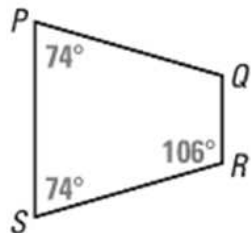
17) Give the most specific name for the quadrilateral.



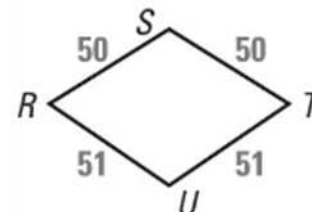
18) Give the most specific name for the quadrilateral.



19) Give the most specific name for the quadrilateral.



20) Give the most specific name for the quadrilateral.



21) Draw an Euler Diagram for Quadrilaterals, Parallelograms, Rectangles, Rhombi, Squares, Trapezoids, Isosceles Trapezoids, and Kites

22) Complete the chart:

	parallelogram	rectangle	rhombus	square	trapezoid	isosceles trapezoid	kite
4 sided figure							
all angles are congruent							
all angles are right angles							
all sides are congruent							
both pairs of opposite angles are congruent							
both pairs of opposite sides are parallel							
consecutive angles are supplementary							
diagonals are congruent							
diagonals are perpendicular							
diagonals bisect each other							
each diagonal bisects a pair of opposite angles							
exactly one pair of opposite sides are congruent							
exactly one pair of opposite sides are parallel							
sum of the interior angles equals 360 degrees							