

Ch 9 Assignment Calendar		
Date	Day	Assignment
4/3/23 4/4/23	Friday Tuesday	9.1 Angles of Quadrilaterals and Polygons
4/5/23 4/6/23	Wednesday Thursday	9.2 Parallelograms
3/17/23	Friday (C Day)	9.1-2 Task No Homework 😊
3/20/23– 3/31/23	SPRING BREAK	
4/3/23 4/4/23	Monday Tuesday	Mid-Chapter Review Day
4/7/23 4/10/23	Friday Monday	9.3 Rectangles and Squares
4/11/23 4/12/23	Tuesday Wednesday	9.4 Rhombi and Kites
4/13/23 4/14/23	Thursday Friday	Review Day
4/17/23 4/18/23	Monday Tuesday	Chapter 9 Test No Homework 😊

HW Directions:

- Assignments are due the next class meeting.
- Late assignments will be reduced by 50%.
- The **last day** to turn in assignments from this chapter is on the day that the project is due.
- Blank worksheets and Notes packets can be found here: www.washoeschools.net/DRHSmath
- Check out our class YouTube channel:
<https://www.youtube.com/channel/UCh9fLv9metmQuIb6vQ5Zw>
- Show all work and draw the diagrams for each problem.
- Students who complete every assignment this semester will get a 2% bonus.
- For extra practice, visit www.khanacademy.org
- Check out www.mathguy.us for extra help.

9.1 Notes: Angles of Quadrilaterals and Polygons

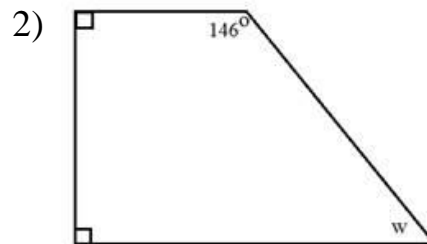
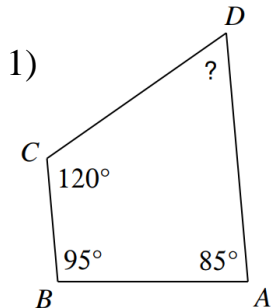
Objectives:

- Students will be able to find missing angles in a quadrilateral.
- Students will be able to find the sum of the angles in a polygon.

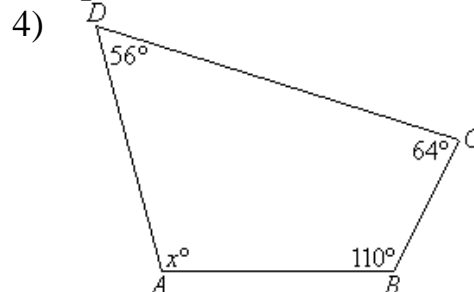
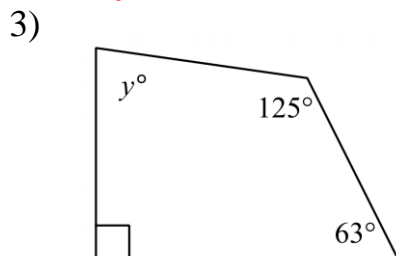
Exploration: Use the following **TWO** links: <https://www.geogebra.org/m/XjSKUQBz> and <https://www.geogebra.org/m/xwbvZyhv> . Move the vertices of the quadrilateral around, and observe what happens to the angles. Make a conjecture about the sum of the angles in a quadrilateral.

<p>Sum of the Angles in a Quadrilateral</p>	<p>The sum of the angles of a quadrilateral is always _____.</p>	
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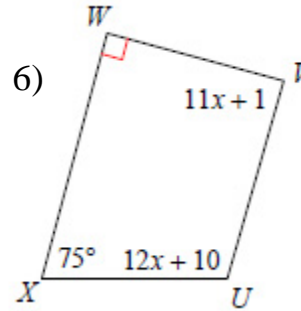
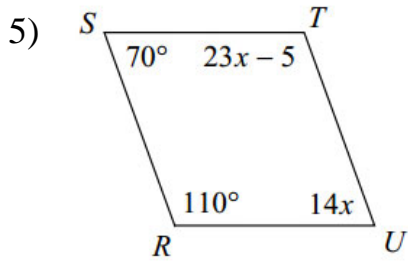
Examples 1 – 3: Find the missing angle in each quadrilateral.



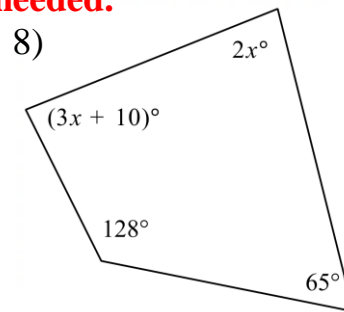
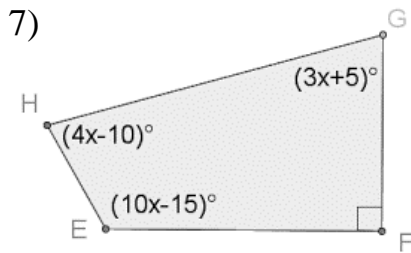
You try! For #3 – 4: Find the missing angle in each quadrilateral.



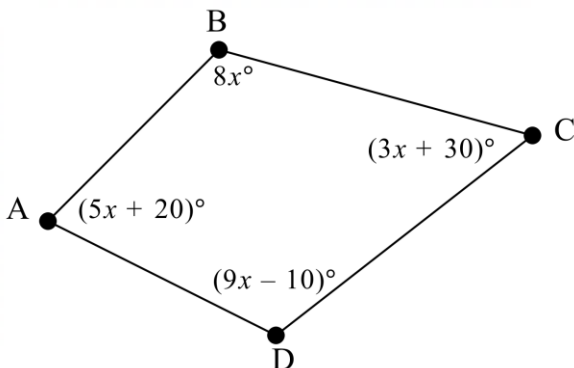
Examples 5 – 8, find the value of the variable.



You try #7 – 8! Round to one decimal place, if needed.



Example 9: Find the measure of the largest angle in the quadrilateral shown below.



Example 10: All four angles of a quadrilateral are congruent to each other. Find the measure of each angle in the quadrilateral.

Sum of the Angles in a Polygon	The sum of the angles of a polygon can be found by using the formula _____ , where n is the number of sides.
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For #11 – 13, find the sum of the angles in each polygon.

11) octagon

12) hexagon

13) nonagon

You try #14 – 16! Find the sum of the angles in each polygon.

14) pentagon

15) decagon

16) quadrilateral

The Measure of One Angle of a Regular Polygon	The measure of one angle of a regular polygon can be found by using the formula _____ , where n is the number of sides.
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17) Assume all the angles of a hexagon are congruent (the hexagon is *regular*). Find the measure of *one* interior angle of the hexagon.

You Try! 18) Find the measure of one angle of a regular pentagon.

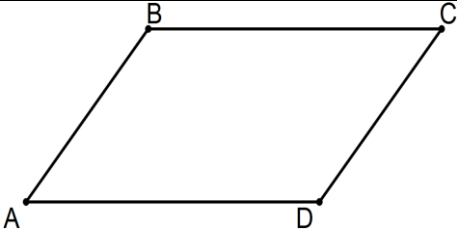
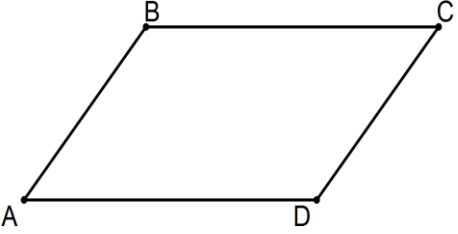
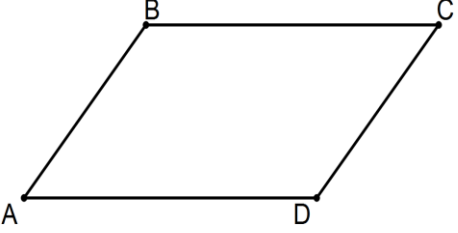
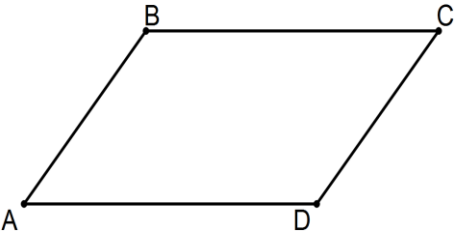
9.2 Notes: Parallelograms

Objectives:

- Students will be able to use properties of parallelograms to solve problems.

Exploration: A **parallelogram** is a quadrilateral that has both pairs of opposite sides parallel. Use the given link to fill in the properties of parallelogram in the table below:

<https://www.geogebra.org/m/amdzUqFu>

<p>Opposite Sides of a Parallelogram</p>	<p>The opposite sides of a parallelogram are _____ and _____.</p>	
<p>Opposite Angles of a Parallelogram</p>	<p>The opposite angles of a parallelogram are _____</p>	
<p>Consecutive Angles of a Parallelogram</p>	<p>The consecutive angles of a parallelogram are _____</p>	
<p>Diagonals of a Parallelogram</p>	<p>The diagonals of a parallelogram _____ each other.</p>	

Example #1: Find the measure of the missing angles and the lengths of the missing sides.

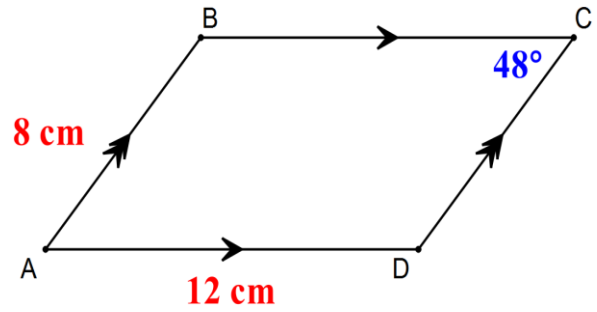
$\angle A = \underline{\hspace{2cm}}$

$\angle B = \underline{\hspace{2cm}}$

$\angle D = \underline{\hspace{2cm}}$

$\overline{BC} = \underline{\hspace{2cm}}$

$\overline{CD} = \underline{\hspace{2cm}}$



You Try! Example #2: Find the measure of the missing angles and the lengths of the missing sides.

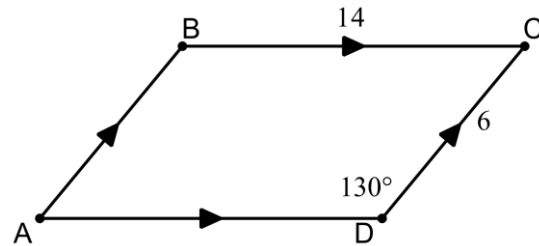
$\angle A = \underline{\hspace{2cm}}$

$\angle B = \underline{\hspace{2cm}}$

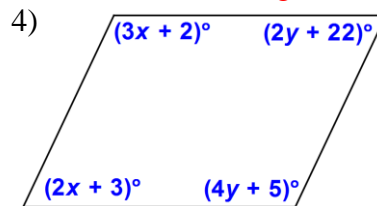
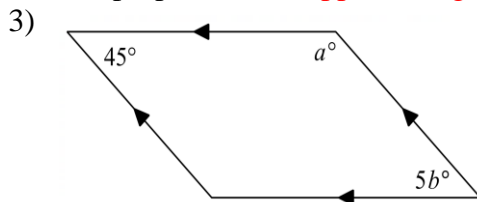
$\angle C = \underline{\hspace{2cm}}$

$\overline{AD} = \underline{\hspace{2cm}}$

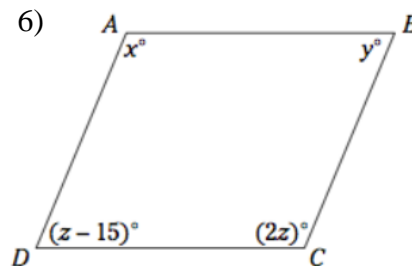
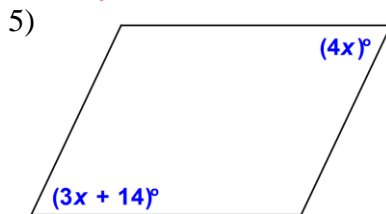
$\overline{AB} = \underline{\hspace{2cm}}$



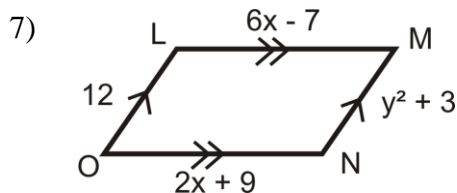
For #3 – 6: Given that each quadrilateral shown is a parallelogram, find the value of the variable(s). Use the properties that **opposite angles are congruent**, and **consecutive angles are supplementary**.



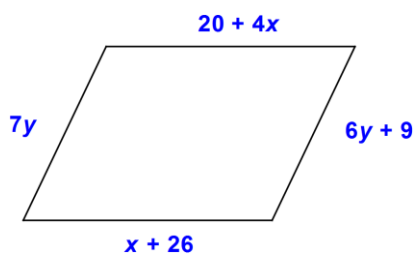
You try #5 – 6!



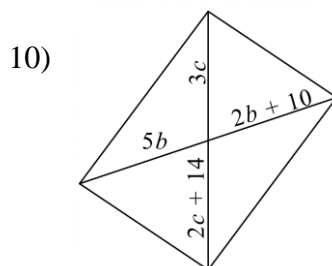
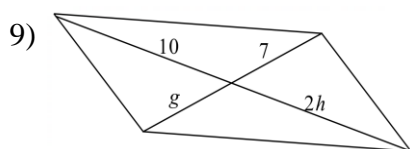
For #7 – 8, for each parallelogram shown below, find each variable. Use the property that **opposite sides are congruent**.



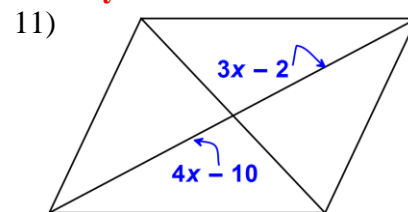
You try! 8)



For #9 – 11, find the value of each variable, given that the quadrilateral is a parallelogram. Use the property that states **the diagonals bisect each other**.



You try!



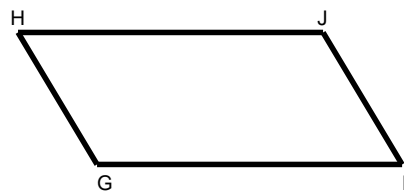
Example 12:

What is the measure of $\angle F$ in Parallelogram $FGHJ$?

$$\overline{FG} = 3x - 44$$

$$\overline{HJ} = 61$$

$$m\angle G = (4x + 10)^\circ$$




9.3 Notes: Rectangles and Squares

Objectives:

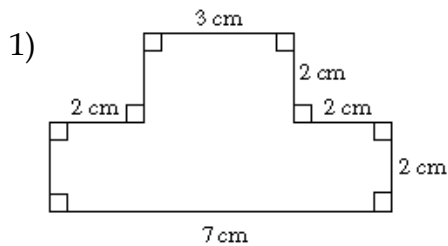
- Students will be able to solve problems using properties of rectangles and squares.

Exploration: Use this link to fill in the properties of rectangles in the table below:

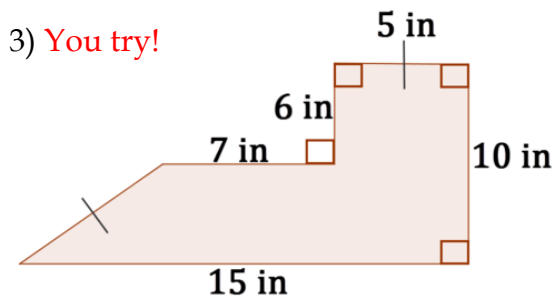
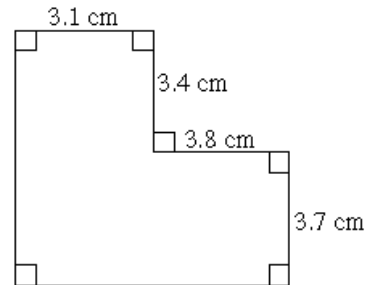
<https://www.geogebra.org/m/RCAX5KZa>

Opposite Sides of a Rectangle	The opposite sides of a rectangle are _____ and _____.	
Angles of a Rectangle	The angles of a rectangle are each a _____ angle.	
Diagonals of a Rectangle	The diagonals of a rectangle are _____ and _____ each other.	

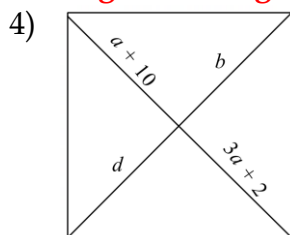
Examples 1 – 3: Use the property that says **opposite sides of a rectangle are congruent** in order to find the perimeter of each shape shown below.



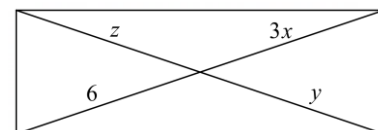
2) You try!



For #4 – 5, find the variable for each rectangle. Use the properties that the **diagonals of a rectangle are congruent and bisect each other**.



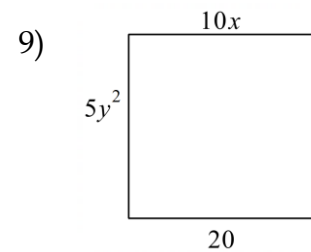
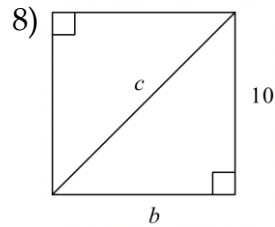
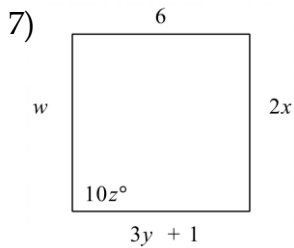
5) You try!



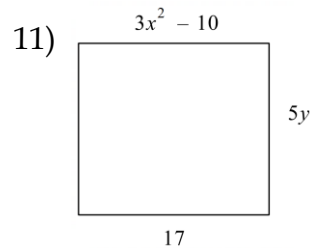
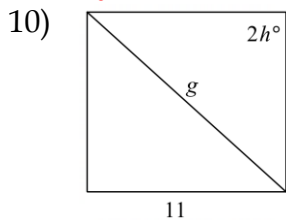
Example 6: A rectangle has a length of 7 cm and a width of 24 cm. Find the length of one diagonal.
Hint: draw a diagram.

Sides of a Square	The sides of a square are all _____.	
Angles of a Square	The angles of a square are all _____ angles.	
Diagonals of a Square	The diagonals of a square are _____ and _____ of each other.	

For #7 - 11, find the variable(s) in each square.

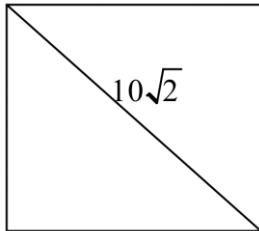


You try!



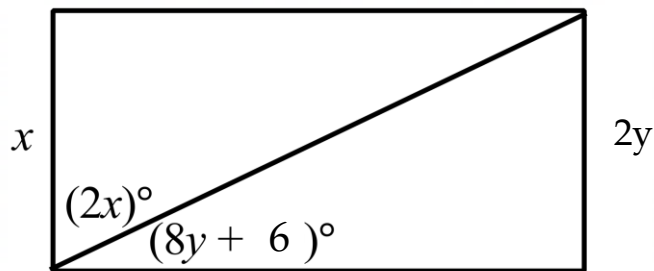
Example 12: A square has a perimeter of 32 inches. Find the area of the square. (Reminder: $A = s^2$)

Example 13: Find the perimeter of the square shown below.



Example 14: Given that a rectangle and a square both have a perimeter of 24 mm. If the length and width of the rectangle is 3 cm and 9 cm, then which has the larger area, the square or the rectangle?

Challenge! Solve for the variables in the rectangle below.



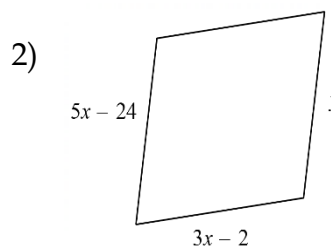
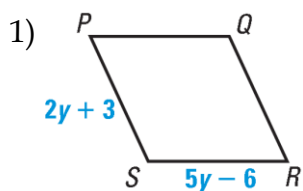
9.4 Notes: Rhombi and Kites

Objectives:

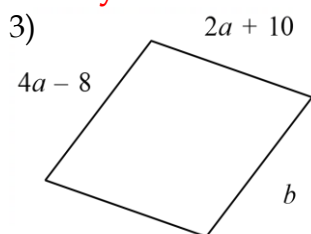
- Students will be able to name regular polygons by the sides.
- Students will be able to find the area of a regular polygon.

Properties of a Rhombus	Sides	A rhombus is a parallelogram where all four sides are _____.	
	Diagonals	The diagonals of a rhombus are _____ of each other.	
	Diagonals and Angles	The diagonals of a rhombus _____ the angles of the rhombus.	

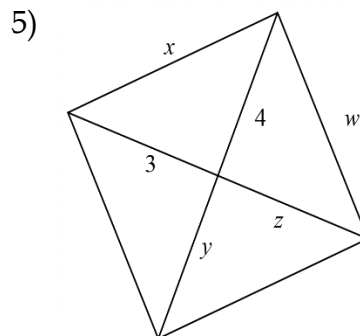
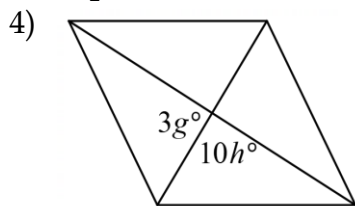
Examples 1 - 3: Find the measure of each variable for each rhombus shown below.



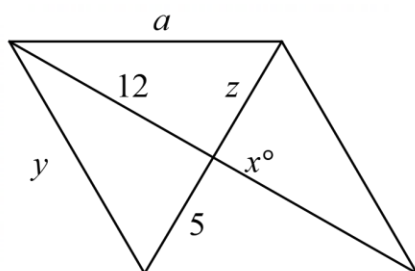
You try #3!



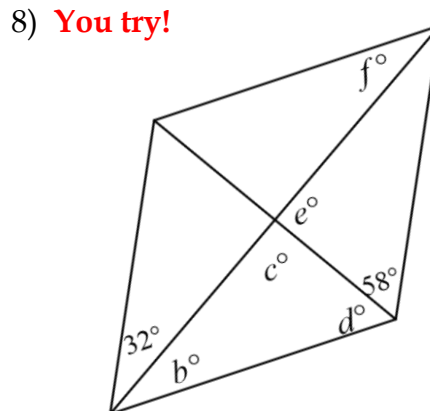
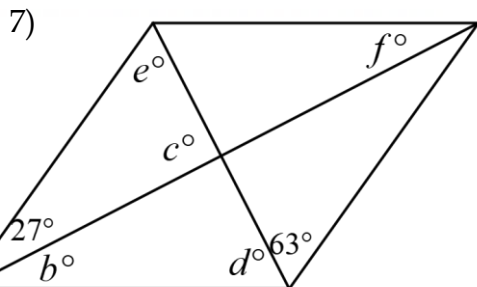
Examples 4 - 6: Find the measure of each variable for each rhombus shown below.



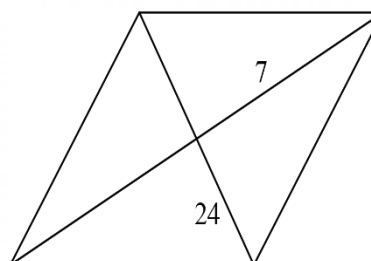
6) **You try!**



Examples 7 - 8: Find the measure of each variable for each rhombus shown below.



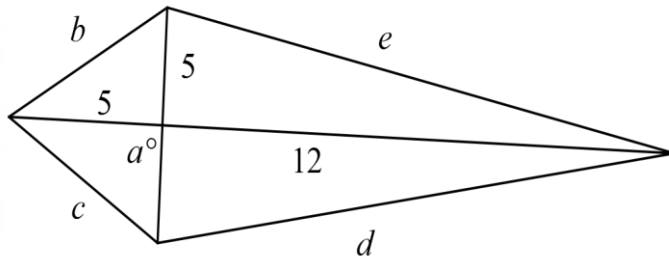
9) Find the perimeter of the rhombus shown below.



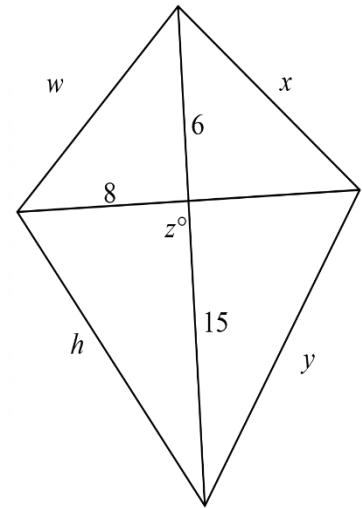
Properties of a Kite	Sides	A kite is a quadrilateral that has two pairs of consecutive sides that are _____.	
	Diagonals	One diagonal of a kite is the _____ _____ of the other.	
Note: there are other properties about kites (specifically about the angles) that we are not studying this year.			

Examples 10 - 11: Find the measure of each variable for each kite shown below.

10)



11) **You try!**



12) Find the perimeter of the kite shown below.

