Name: _____ Date: _____
Period: _____

5

Essential Question: What are the similarities and differences between the special quadrilaterals?

Each of these shapes is a parallelogram, so they each have the properties of parallelograms (listed below), plus more of their own.

Theorems about Rhombuses (use Rhombus EFGH below to fill in the blanks):

1. A parallelogram is a rhombus if and only if its diagonals are perpendicular.

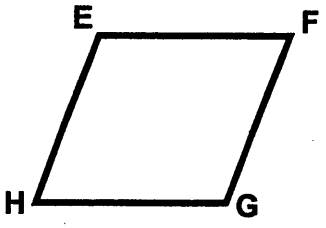
   _____ ⊥ _____

2. A parallelogram is a rhombus if and only if each diagonal bisects a pair of opposite angles.

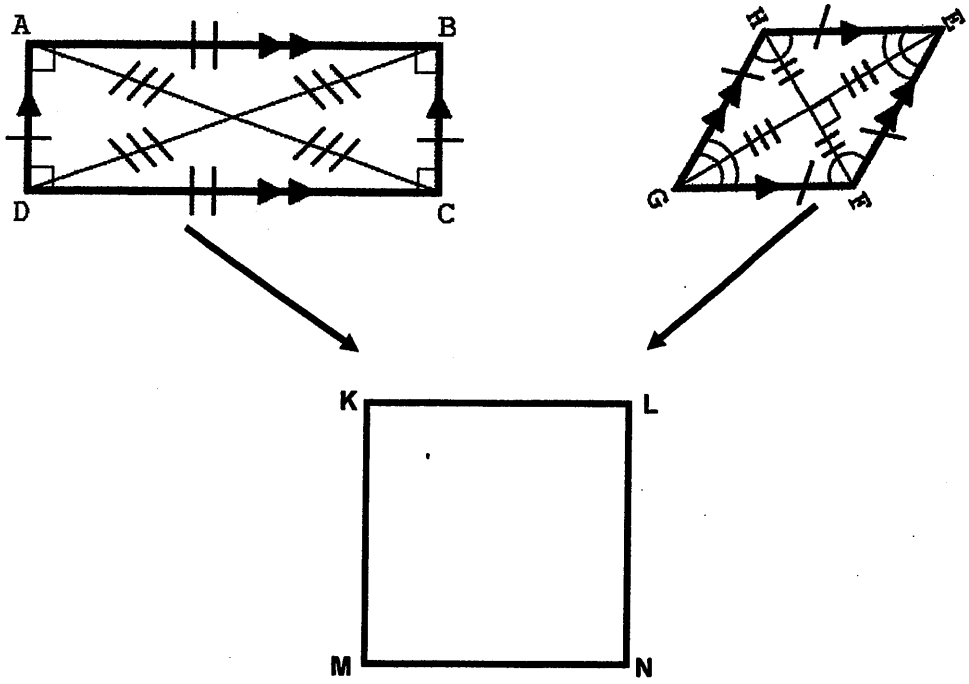
   $\overline{EG}$ bisects ∠HEF and ∠HGF, so _____ ≅ _____ and _____ ≅ _____

   $\overline{FH}$ bisects ∠EFG and ∠EHG, so _____ ≅ _____ and _____ ≅ _____

3. All four sides are equal.



There are no theorems specific to the square. It is special because it has all of the properties of the rectangle **and** rhombus.



Name: _____ Date: _____
Period: _____

Example 1: Decide whether the statement is *always*, *sometimes*, or *never* true.

a. A rectangle is a square.

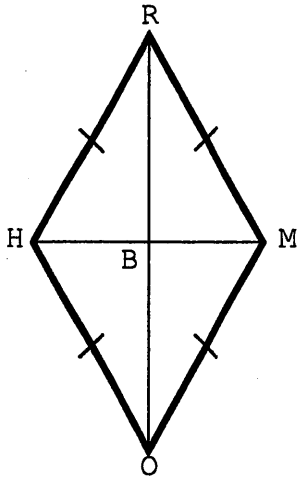
b. A square is a parallelogram.

c. A quadrilateral is a rhombus.

d. A square is a rectangle.

Example 2: Solve for x using the figure to the right.

a. $m\angle RBH = 8x - 6$



b. $m\angle RHM = x + 40$ and $m\angle MRH = 2x$

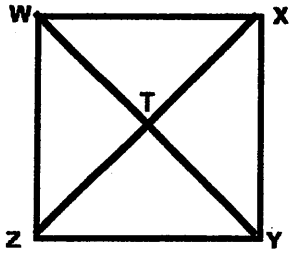
c. If $m\measuredangle HOB = 24°$, find $m\measuredangle MOB$.

d. If RB = 6, find RO.

Example 3: WXYZ is a square. If WT is 3, find each measure.

a. ZX

b. WX



c. $\measuredangle WZY$

d. $\measuredangle XYT$

e. $\measuredangle ZTY$

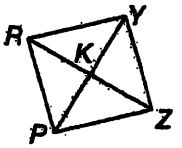
NAME _____ DATE _____ PERIOD _____ (5)

6-5 Practice
Rhombi and Squares

***PRYZ* is a rhombus. If *RK* = 5, *RY* = 13 and *m*∠*YRZ* = 67, find each measure.**

1. *KY*

2. *PK*



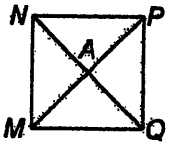
3. *m*∠*YKZ*

4. *m*∠*PZR*

***MNPQ* is a rhombus. If *PQ* = $3\sqrt{2}$ and *AP* = 3, find each measure.**

5. *AQ*

6. *m*∠*APQ*

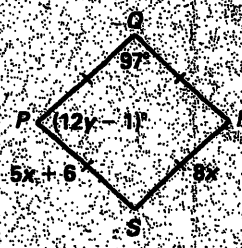


7. *m*∠*MNP*

8. *PM*

Classify the special quadrilateral. *Explain* your reasoning. Then find the values of *x* and *y*.

11.



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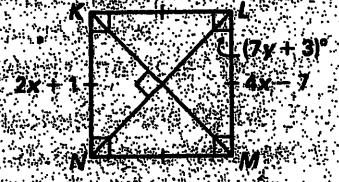
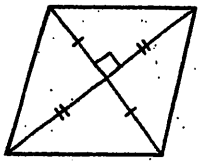


Classify the parallelogram. *Explain* your reasoning.

5.



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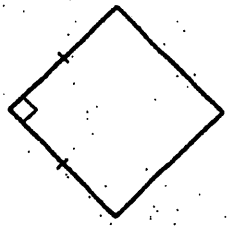

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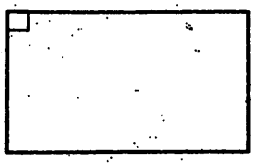

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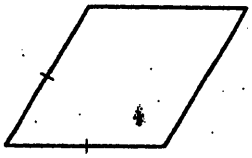

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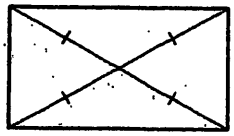

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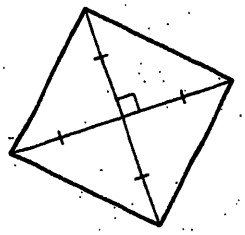


Quadrilaterals Quiz Review #2

Date _____ Period ____

Find the midpoint of the line segment with the given endpoints.

1) $(-7, 9)$, $(8, -6)$

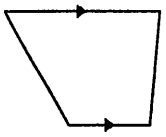
Find the other endpoint of the line segment with the given endpoint and midpoint.

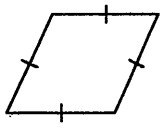
2) Endpoint: $(-7, -9)$, midpoint: $(4, -3)$

Find the distance between each pair of points. Round your answer to the nearest tenth, if necessary.

3) $(7.4, -1.9)$, $(-7.9, -3.4)$

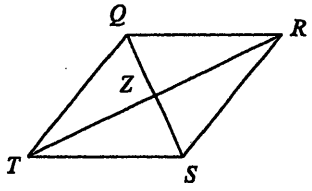
State the most specific name for each figure.

4) 

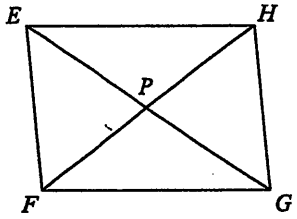
5) 

Solve for x. Each figure is a parallelogram.

6) $ZT = 21$
$RT = 7x - 7$

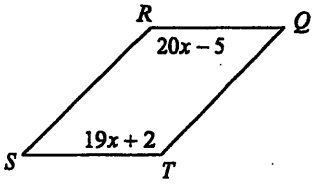


7) $GP = 1 + 3x$
$PE = 4x - 1$

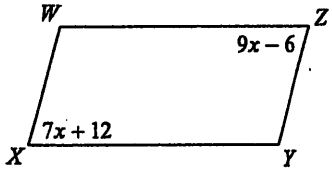


Find the measurement indicated in each parallelogram.

8) Find $m\angle R$



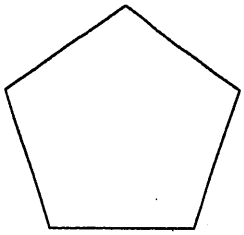
9) Find $m\angle X$



Formulas:	Distance: $d^2 = \Delta x^2 + \Delta y^2$ or $d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$	Midpoint: $M\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
n is the number of sides	Sum of Interior Angles: $180(n-2)$	Interior angle $= \frac{180(n-2)}{n}$
	Sum of Exterior Angle: $360°$	Exterior Angle: $\frac{360}{n}$

Find the measure of one interior angle in each polygon. Round your answer to the nearest tenth if necessary.

10)



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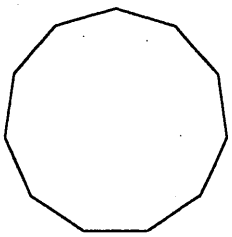
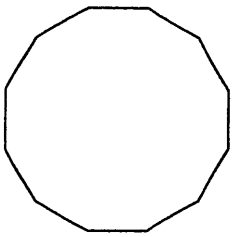


Find the measure of one exterior angle in each polygon. Round your answer to the nearest tenth if necessary.

12)



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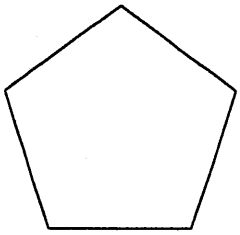
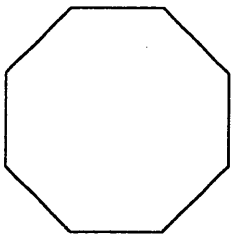


Find the interior angle sum for each polygon. Round your answer to the nearest tenth if necessary.

14)



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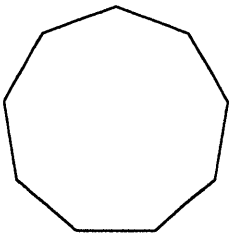

Formulas:	Distance: $d^2 = \Delta x^2 + \Delta y^2$ or $d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$	Midpoint: $M\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
n is the number of sides	Sum of Interior Angles: $180(n-2)$	Interior angle $= \frac{180(n-2)}{n}$
	Sum of Exterior Angle: 360°	Exterior Angle: $\frac{360}{n}$