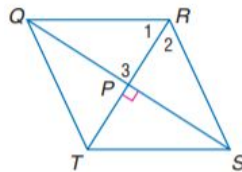


**Rhombus:**

6.15	If a parallelogram is a rhombus, then its diagonals are perpendicular	
6.16	If a parallelogram is a rhombus, then each diagonal bisects a pair of opposite angles.	

1. QRST is a rhombus.


- a. If  $m\angle 3 = y^2 - 31$ ,  
find the value of  $y$ .



- b. If  $m\angle RST = 56$ , find  
 $m\angle TQS$ .

**Square:**

**Parallelogram Diagram:**

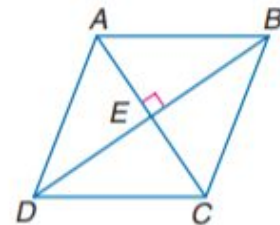
6.17	If the diagonals of a parallelogram are perpendicular the the parallelogram is a rhombus (converse of Theorem 6.15)	
6.18	If one diagonal of a parallelogram bisects a pair of opposite angles, then the parallelogram is a rhombus (converse of Theorem 6.16)	
6.19	If one pair of consecutive sides of a parallelogram are congruent, then the parallelogram is a rhombus	
6.20	If a quadrilateral is both a rectangle and a rhombus, then it is a square.	

2. In rhombus ABCD,  $AB = 2x + 3$  and  $BC = 5x$ . Find the following:

a.  $x$

b.  $AD$

c.  $m\angle AEB$

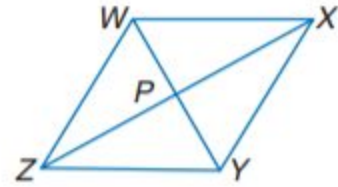


d.  $m\angle BCD$  if  
 $m\angle ABC = 83.2$

3. Write a two column proof:

Given:  $\overline{WZ} \parallel \overline{XY}$ ,  $\overline{WX} \parallel \overline{ZY}$   
 $\overline{WZ} \cong \overline{ZY}$

Prove:  $WXYZ$  is a rhombus



4. Determine whether parallelogram ABCD with vertices  $A(1, 3)$ ,  $B(-3, 1)$ ,  $C(-1, -3)$  and  $D(3, -1)$  is a rhombus, rectangle, or square. List all that apply.

