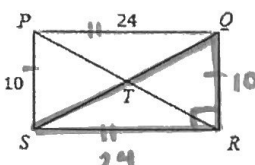
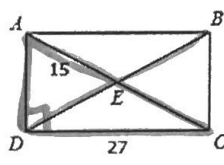


Main Ideas/Questions	Notes
<p>PROPERTIES OF Rectangles</p> <p>PLUS THESE! ➤</p>	<p>Rectangles have the same properties of parallelograms:</p> <ul style="list-style-type: none"> • Opposite sides are congruent. • Opposite sides are parallel. • Opposite angles are congruent. • Consecutive angles are supplementary. • Diagonals bisect each other.
	<p>① 4 right \angle's.</p> <p>② Diagonals are \cong.</p>

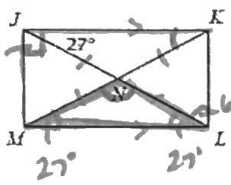
Directions: Each quadrilateral below is a rectangle. Find the missing measures.

1. 
 $QR = 10$
 $SR = 24$
 $\rightarrow SQ = 26$
 $PR = 26$
 $QT = 13$

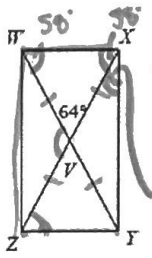
Pyth. Theorem:
 $a^2 + b^2 = c^2$
 $24^2 + 10^2 = c^2$
 $\sqrt{676} = c$ $26 = c$

2. 
 $AC = 30$
 $BD = 30$
 $BE = 15$
 $AB = 27$
 $\rightarrow BC = 13.08$

Pyth Th.:
 $a^2 + 27^2 = 30^2$
 $a^2 + 729 = 900$
 -729
 $a^2 = 171$
 $a = 13.08$

3. 
 $m\angle MJK = 90^\circ$
 $m\angle MJL = 63^\circ$
 $m\angle JLK = 63^\circ$
 $m\angle KML = 27^\circ$
 $m\angle MNL = 126^\circ$

$90 - 27 = 63^\circ$
 $180 - 27 - 27 = 126^\circ$

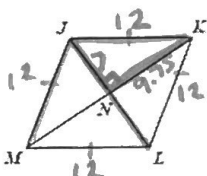
4. 
 $m\angle XWY = 58^\circ$
 $m\angle YXZ = 32^\circ$
 $m\angle WVZ = 116^\circ$
 $m\angle XWZ = 90^\circ$
 $m\angle XZY = 58^\circ$

$180 - 64 = 116^\circ$
 $90 - 58 = 32^\circ$

Main Ideas/Questions	Notes
<p>PROPERTIES OF Rhombi</p> <p>PLUS THESE! ➤</p>	<p>Rhombi have the same properties of parallelograms:</p> <ul style="list-style-type: none"> • Opposite sides are congruent. • Opposite sides are parallel. • Opposite angles are congruent. • Consecutive angles are supplementary. • Diagonals bisect each other.
	<p>① all 4 sides are \cong.</p> <p>② Diagonals are \perp (perpendicular).</p> <p>③ Diagonals bisect opposite \angle's.</p>

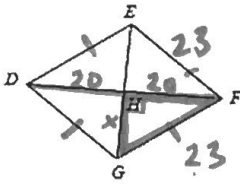
Directions: Each quadrilateral below is a rhombus. Find the missing measures.

1. $JK = 12$ and $JN = 7$


 $JM = 12$
 $JL = 14$
 $MN = 9.75$
 $MK = 19.5$

Pyth. Th.:
 $7^2 + b^2 = 12^2$
 $49 + b^2 = 144$
 -49
 $b^2 = 95$
 $b = 9.75$

2. $EF = 23$ and $DF = 40$


 $GF = 23$
 $HF = 20$
 $GH = 11.36$
 $GE = 22.72$

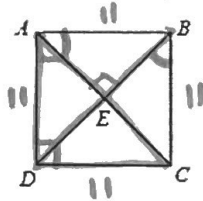
$x^2 + 20^2 = 23^2$
 $x^2 + 400 = 529$
 -400
 $x^2 = 129$
 $x = 11.36$

PROPERTIES OF Squares

A square has ALL the properties of a parallelogram, rectangle, and rhombus!

- Opposite sides are congruent.
- Opposite sides are parallel.
- Opposite angles are congruent.
- Consecutive angles are supplementary.
- Diagonals bisect each other.
- Four right angles.
- Diagonals are congruent.
- Four congruent sides.
- Diagonals are perpendicular.
- Diagonals bisect opposite angles.

6. If $ABCD$ is a square and $AD = 11$, find each missing value.



$$11^2 + 11^2 = c^2$$

$$121 + 121 = c^2$$

$$\sqrt{242} = c^2$$

$$15.56$$

$$\frac{15.56}{2} = 7.78$$

$$BC = 11$$

$$AC = 15.56$$

$$BD = 15.56$$

$$EC = 7.78$$

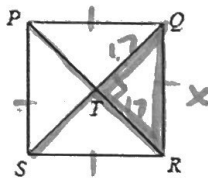
$$m\angle DAB = 90^\circ$$

$$m\angle AEB = 90^\circ$$

$$m\angle CBD = 45^\circ$$

$$m\angle BAC = 45^\circ$$

7. If $PQRS$ is a square and $TR = 17$, find each missing value.



$$17^2 + 17^2 = x^2$$

$$\sqrt{578} = x^2$$

$$24.04 = x$$

$$PR = 34$$

$$QS = 34$$

$$QT = 17$$

$$PQ = 24.04$$

$$m\angle PRS = 45^\circ$$

$$m\angle STR = 90^\circ$$

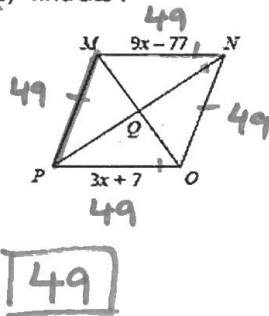
$$m\angle PSR = 90^\circ$$

$$m\angle QPR = 45^\circ$$

8. If $MNOP$ is a rhombus, find MP .

$$9x - 77 = 3x + 7$$

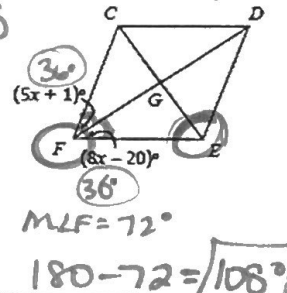
$$\begin{array}{r} 9x - 77 = 3x + 7 \\ -3x \quad -77 \\ \hline 6x = 84 \\ x = 14 \end{array}$$



9. If $CDEF$ is a rhombus, find $m\angle FED$.

$$5x + 1 = 8x - 20$$

$$\begin{array}{r} 5x + 1 = 8x - 20 \\ -3x \quad +20 \\ \hline 21 = 3x \\ x = 7 \end{array}$$



Always, Sometimes, Never

Directions: Determine whether the following statements are always, sometimes, or never true.

- A kite is a quadrilateral.
- A trapezoid is a parallelogram.
- A square is a rectangle.
- A rectangle is a square.
- A parallelogram is a rhombus.
- A rhombus is a quadrilateral.

