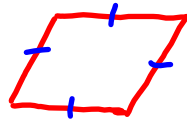


Geometry: Lesson 7.4

A Rhombus is... a parallelogram with All sides the same length.



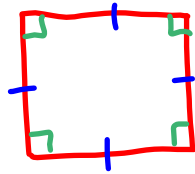
All have same markings. So same length.

A Rectangle is... a parallelogram with all angles being 90°.



marked with Right angle markers.

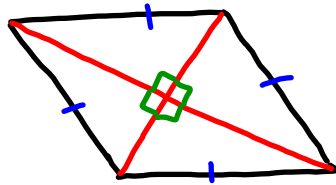
A Square is... a parallelogram with all 4 sides the same length & all angles measure 90°.



Rhombus Diagonal Theorem:

The intersection of the diagonals form...

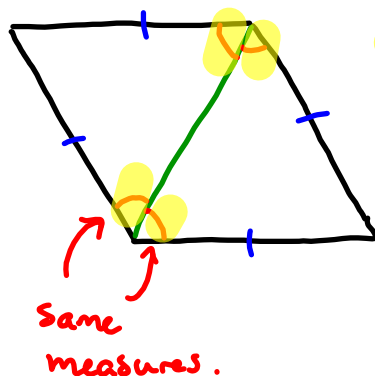
4 Right Angles.



Rhombus Opposite Angle Theorem:

The Diagonal Bisects the angles.

Remember : Bisect means to cut in Half.

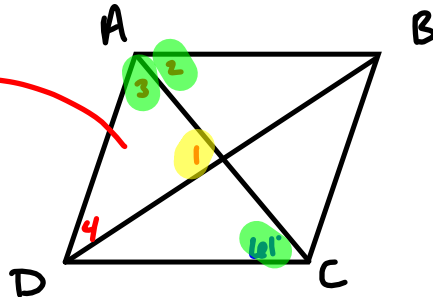
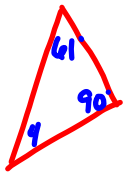


All 4 of those angles
will be the same measure

7.4 Properties of Special Parallelograms

Ex: Solve for all numbered angles.

look @ the triangle.



$$61 + 90 + \angle 4 = 180$$

$$\begin{array}{r} 151 + \angle 4 = 180 \\ -151 \quad -151 \end{array}$$

$$\angle 4 = 29^\circ$$

$$m\angle 1 = 90^\circ$$

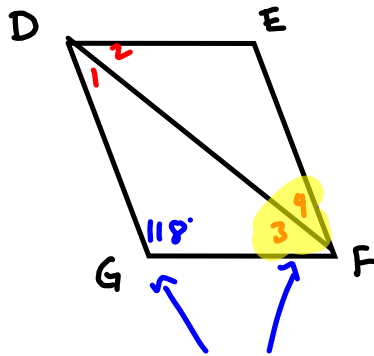
Intersection of Diagonals forms 4 Right Angles.

$$m\angle 2 = 61^\circ$$

$$m\angle 3 = 61^\circ$$

The Diagonals make 4 Equal Angles when bisected.

Ex: Solve for all numbered angles.



Any 2 consecutive Angles in a Parallelogram add to 180°

$$180 - 118 = 62^\circ$$

$\angle 3$ & $\angle 4$ are the same. And they add to 62°

So we divide 62 by 2 to get 31.

$$m\angle 1 = 31^\circ$$

$$m\angle 2 = 31^\circ$$

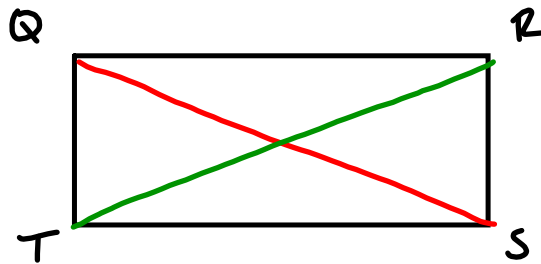
$$m\angle 3 = 31^\circ$$

$$m\angle 4 = 31^\circ$$

Rectangle Diagonal Theorem:

Diagonals in a rectangle are the same length.

Ex: $\underline{\underline{QS}} = 5x - 31$ $\underline{\underline{RT}} = 2x + 11$



in Math, when
2 things are the
same, they Equal
Each other.

$$\begin{array}{r} 5x - 31 = 2x + 11 \\ -2x \quad \quad -2x \end{array}$$

$$\begin{array}{r} 3x - 31 = 11 \\ +31 \quad +31 \end{array}$$

$$\frac{3x}{3} = \frac{42}{3}$$

$$x = 14$$

7.4 Properties of Special Parallelograms

Homework:

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