

## NOTES 7.4: SQUARES & RHOMBI

Objective: \_\_\_\_\_

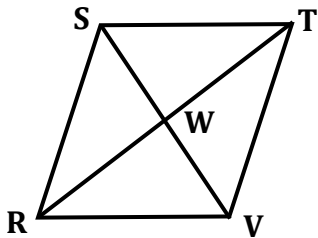
### **RHOMBUS:**

Because a rhombus is a special type of parallelogram, it has all the properties of a parallelogram. In addition to all of the properties of a parallelogram, a rhombus has three additional special properties. They are:

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_
- 6) \_\_\_\_\_
- 7) \_\_\_\_\_
- 8) \_\_\_\_\_

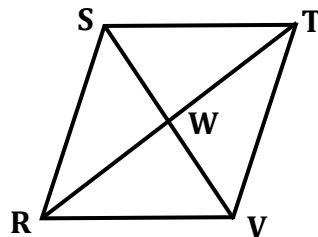
#### **EXAMPLE 1:**

If  $RSTV$  is a rhombus and  $m\angle RST = 67^\circ$ , find  $m\angle RSW$ .



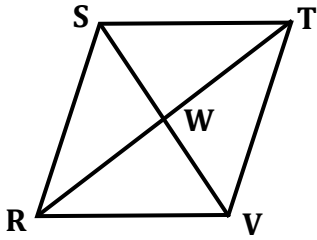
#### **EXAMPLE 2:**

Find  $m\angle SVT$  if  $RSTV$  is a rhombus and  $m\angle STV = 135^\circ$ .

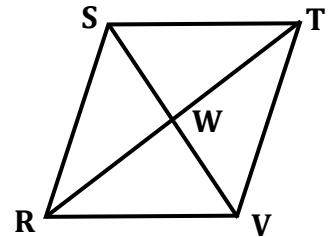


**EXAMPLE 3:**

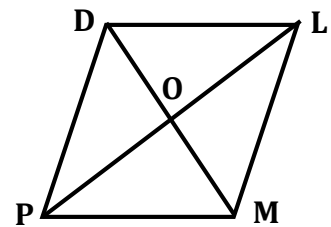
If RSTV is a rhombus and  $m\angle SWT = (2x + 8)^\circ$ , find 'x'.

**EXAMPLE 4:**

What is the value of 'x' if RSTV is a rhombus,  $m\angle WRV = (5x + 5)^\circ$ , and  $m\angle WRS = (7x - 19)^\circ$ ?

**EXAMPLE 5:**

Use rhombus DLMP with  $DM = 26$  to determine whether each statement is true or false. Justify your answers.



a)  $OM = 13$

b)  $\overline{MD} \cong \overline{PL}$

c)  $m\angle DLO = m\angle LDO$

## Notes 7.4 – Squares & Rhombi (Continued)

### SQUARE:

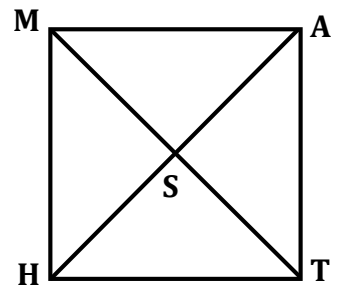
Because a square is a special type of parallelogram, it has **all** of the properties of a parallelogram, in addition to those of a rectangle and a square. They are...

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_
- 6) \_\_\_\_\_
- 7) \_\_\_\_\_
- 8) \_\_\_\_\_
- 9) \_\_\_\_\_
- 10) \_\_\_\_\_

#### EXAMPLE 1:

MATH is a square.

- a) If  $MA = 8$ , then  $HT =$  \_\_\_\_\_.
- b)  $m\angle HST =$  \_\_\_\_\_
- c)  $m\angle MAT =$  \_\_\_\_\_
- d) If  $HS = 2$ , then  $HA =$  \_\_\_\_\_ and  $MT =$  \_\_\_\_\_.



#### EXAMPLE 2:

Use square ABCD and the given information to find each.

- a) If  $m\angle AED = (5x + 5)^\circ$ , find 'x'.

$$x = \underline{\hspace{2cm}}$$

- b) If  $m\angle BAC = (5x)^\circ$ , find 'x'.

$$x = \underline{\hspace{2cm}}$$

