

## TOPIC 6-3: SQUARES & RHOMBI

### RHOMBUS:

Because a rhombus is a special type of parallelogram, it has all the properties of a parallelogram. They are:

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_

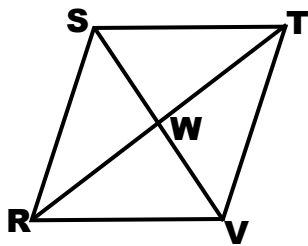
In addition to all of the properties of a parallelogram, a rhombus has two additional special properties. They are:

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_

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#### EXAMPLE 1

If  $m\angle RST = 67^\circ$ , find  $m\angle RSW$ .

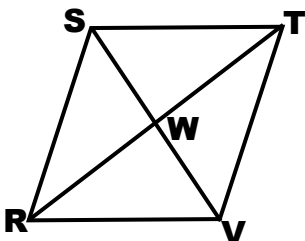


RSTV is a rhombus.

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#### EXAMPLE 2

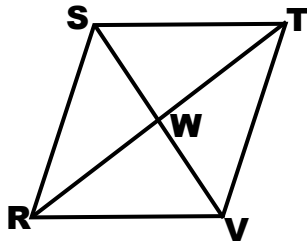
Find  $m\angle SVT$  if  $m\angle STV = 135^\circ$ .



RSTV is a rhombus.

### EXAMPLE 3

If  $m\angle SWT = (2x + 8)^\circ$ , find 'x'.

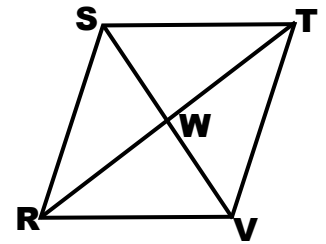


RSTV is a rhombus.

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### EXAMPLE 4

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

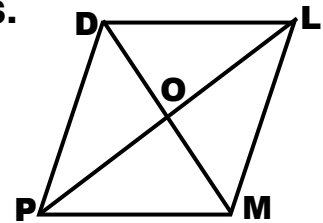


RSTV is a rhombus.

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

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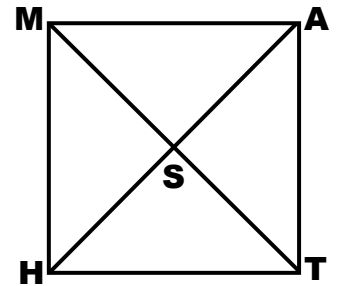
**SQUARE:**

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) \_\_\_\_\_

### EXAMPLE 6

**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 7

Use square **ABCD** and the given information to find each.

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

$x =$  \_\_\_\_\_

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

$x =$  \_\_\_\_\_

