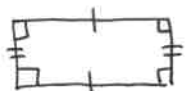


Geometry CC
Rhombi, Rectangles, and Squares

Parallelogram:

1. opposite sides are parallel
2. opposite angles are congruent
3. opposite sides are congruent
4. consecutive angles are supplementary
5. diagonals bisect each other

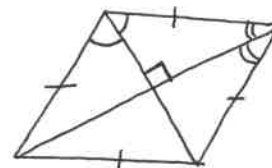
Rectangle:



1. Diagonals are \cong
2. All angles 90°

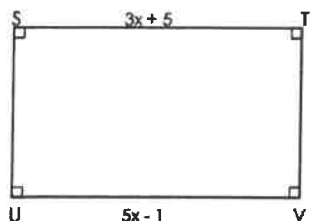
Rhombus:

1. Diagonals are perpendicular
2. Diagonals bisect angles
3. all sides congruent



Square

1. Find the length of ST in the rectangle below:



$$\begin{aligned} 3x + 5 &= 5x - 1 \\ -3x &\quad -3x \\ \hline 5 &= 2x - 1 \\ 6 &= 2x \\ 3 &= x \end{aligned}$$

$$\begin{aligned} ST &= 3(3) + 5 \\ &= 14 \end{aligned}$$

2. $WXYZ$ is a rectangle. Find each measure if $m\angle 1 = 30^\circ$.

a. $m\angle 2 = 60^\circ$

d. $m\angle 5 = 30^\circ$

g. $m\angle 8 = 30^\circ$

b. $m\angle 3 = 60^\circ$

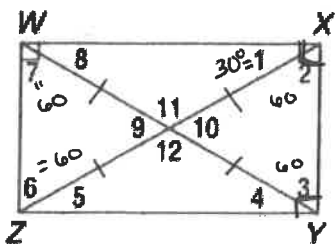
e. $m\angle 6 = 60^\circ$

h. $m\angle 9 = 60^\circ$

c. $m\angle 4 = 30^\circ$

f. $m\angle 7 = 60^\circ$

i. $m\angle 12 = 120^\circ$



★ Diagonals \cong $ZX = WY$

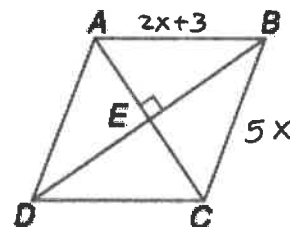
★ Diagonals bisect each other

Geometry CC
Rhombi, Rectangles, and Squares

3. In rhombus ABCD, $AB = 2x + 3$ and $BC = 5x$, $m\angle BEC = 2y + 6$. Find the following:

a. x

$$\begin{array}{r} 2x + 3 = 5x \\ -2x \quad -2x \\ \hline 3 = 3x \\ 1 = x \end{array}$$



b. AD

$$\begin{array}{l} AD = 2x + 3 \\ AD = 2(1) + 3 \\ \hline AD = 5 \end{array}$$

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

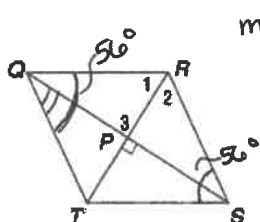
d. $m\angle BCD$ if $m\angle ABC = 83.2$

$$\begin{array}{l} m\angle BCD + 83.2 = 180 \\ \hline m\angle BCD = 96.8^\circ \end{array}$$

e. y

$$\begin{array}{l} m\angle BEC = 90^\circ \\ 2y + 6 = 90 \\ 2y = 84 \\ \hline y = 42 \end{array}$$

4. QRST is a rhombus. If $m\angle RST = 56$, find $m\angle TQS$.

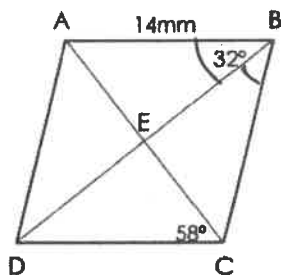


$$m\angle 3 = 90^\circ$$

$$m\angle TQR = 56^\circ$$

$$m\angle TQS = 28^\circ$$

5. This is rhombus ABCD



a. $AD = 14$ mm

b. $m\angle CBD = 32^\circ$

c. $m\angle ADC = 64^\circ$

d. $m\angle AEB = 90^\circ$ diagonals are \perp

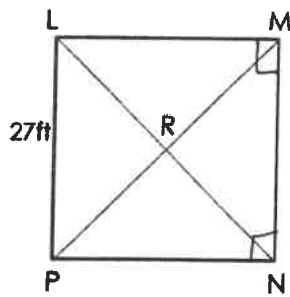
e. $m\angle DAC = 58^\circ$

6. In the rhombus above, if $DB = 16.8$ what is the length of BE ?

$$BE = 8.4$$

*diagonals
bisect each other

7. This is square LMNP



- a. $PN = 27 \text{ ft}$
- b. $m\angle PNM = 90^\circ$
- c. $m\angle PNL = 45^\circ$

8. In the square above, if $LR = 31.8$ what is the length of LN ?

$$LN = 63.6$$

