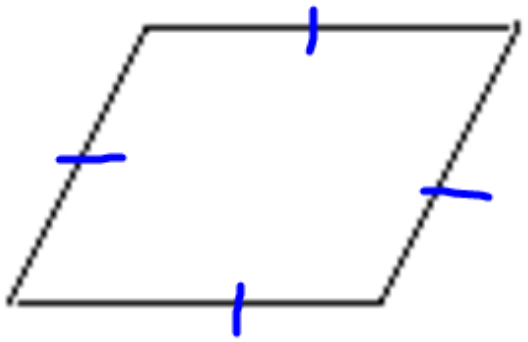
Lesson 6-5 Rhombii and Squares

Rhombus

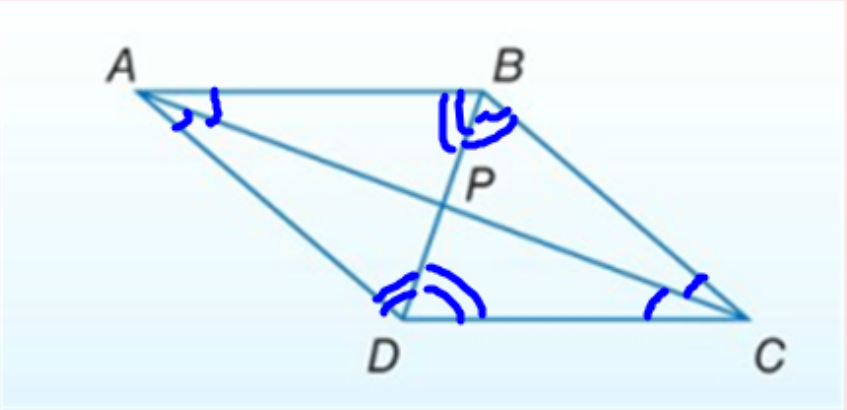


a Quadrilateral with 4 ≅ sides

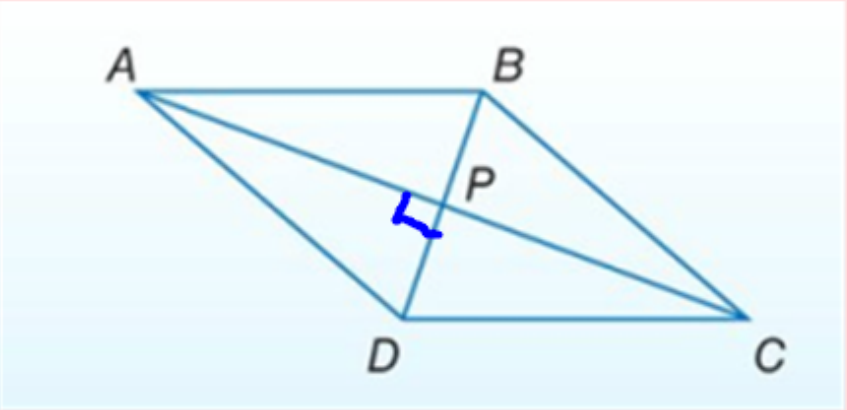
has all the properties of a parallelogram

Properties of a Rhombus

Diagonals bisect opp angles

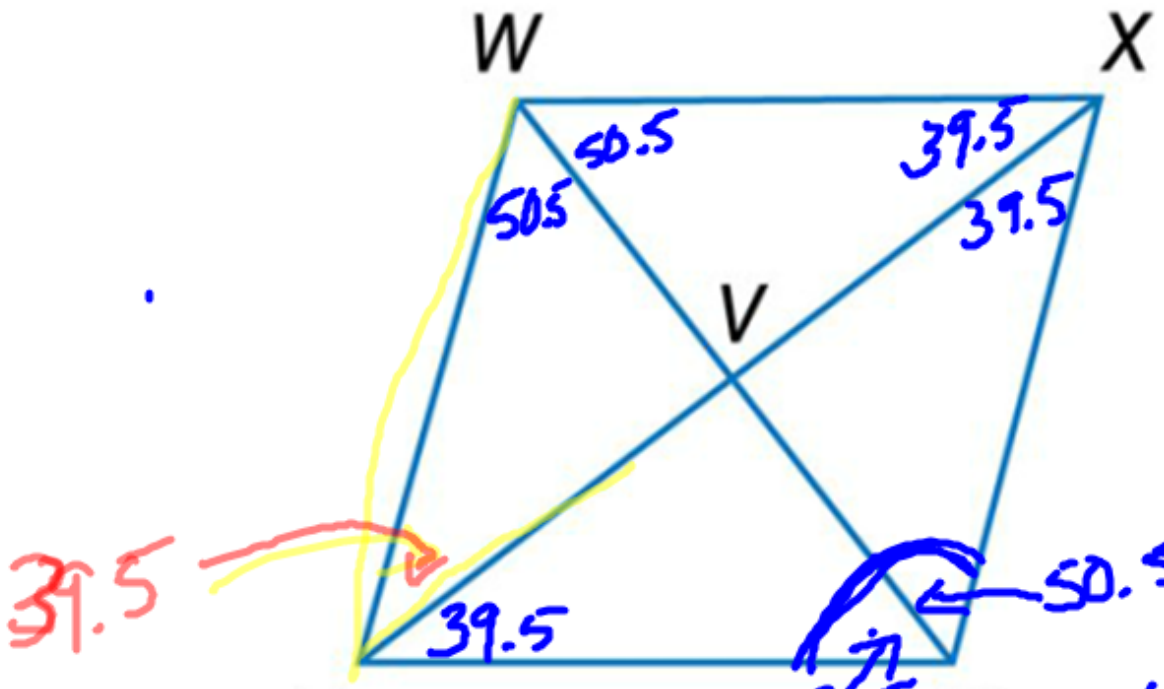


Diagonals are ⊥



A. The diagonals of rhombus $WXYZ$ intersect at V. If $m\angle WZX = 39.5$, find $m\angle ZYX$.

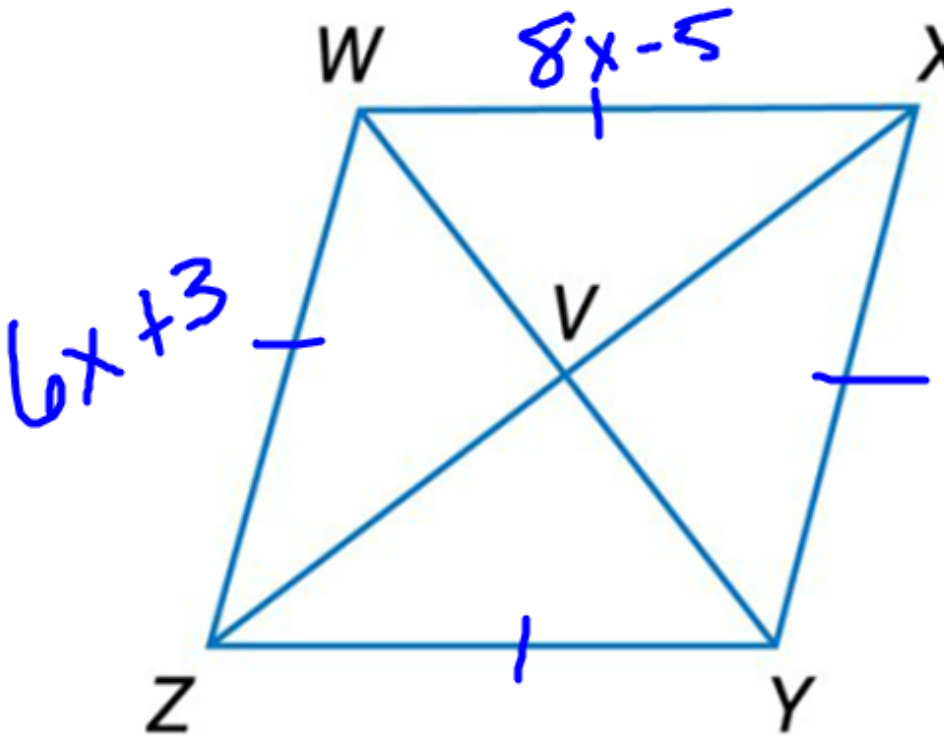
= 101°



Z = 79°

180
− 79
101°

B. ALGEBRA The diagonals of rhombus *WXYZ* intersect at *V*. If $WX = 8x - 5$ and $WZ = 6x + 3$, find *x*.



$8x - 5 = 6x + 3$

$+5 \quad +5$

$8x = 6x + 8$

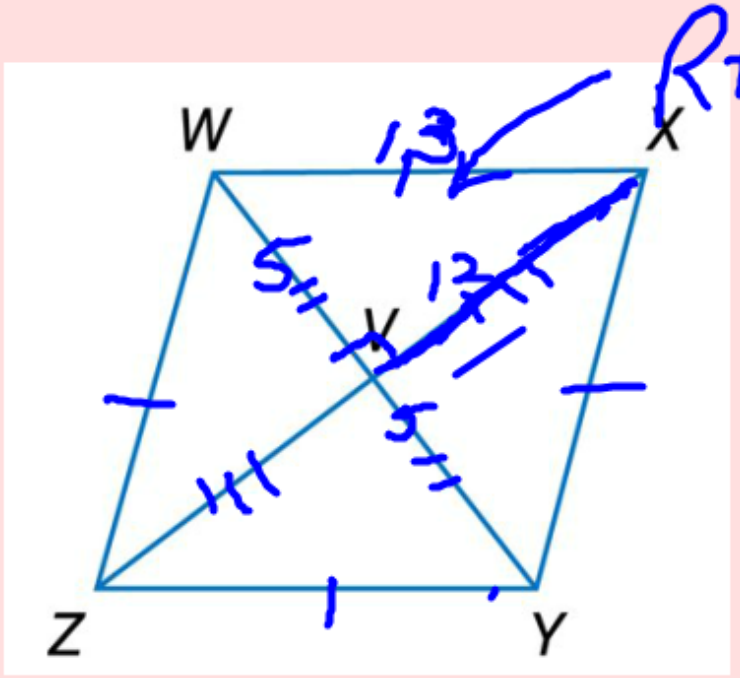
$-6x \quad -6x$

$2x = 8$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

WXYZ is a rhombus. If *WV* = 5 and *WX* = 13, find each measure



$a^2 + b^2 = c^2$

$5^2 + b^2 = 13^2$

$25 + b^2 = 169$

$-25 \quad -25$

$\sqrt{b^2} = \sqrt{144}$

$b = 12$

VX = 12

WY = 10

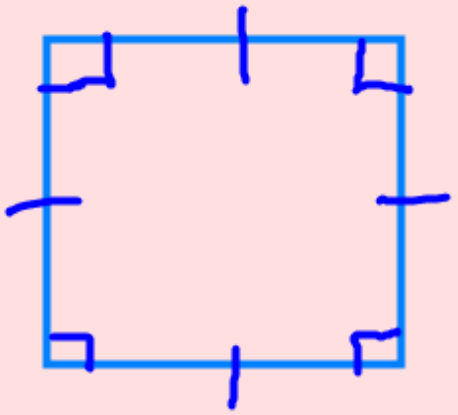
XZ = 24

Square

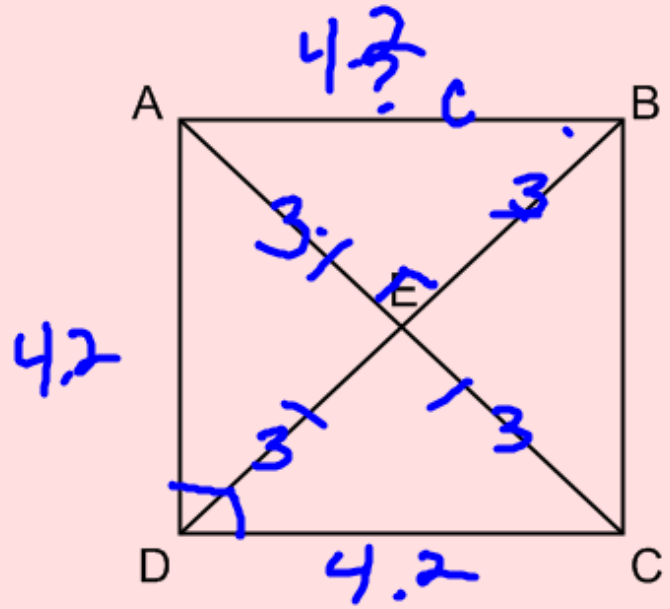
It is a parallelogram

It is a Rectangle

It is a Rhombus



ABCD is a square. If *AE* = 3, find each measure



EB = 3

AC = 6

AB = $3^2 + 3^2 = c^2$

$9 + 9 = c^2$

$18 = c^2$

$c = \sqrt{18} \approx 4.2$

$m\angle AEB = 90^\circ$

$m\angle ADB = 45^\circ$

Concept Summary

Parallelograms