11-2 Vertical and Adjacent Angles

Objectives:

- Students will be able to define angle properties and use them to solve for missing information.

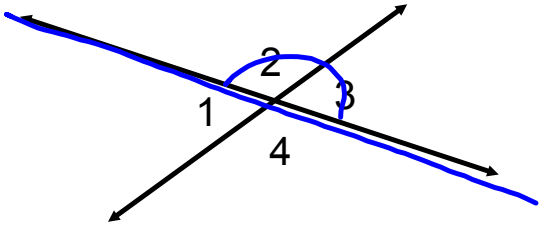
Vocabulary

Vertical Angles: Opposite and have same amount of degrees

Adjacent Angles: next to each other

Vertical Angles

"Vertical Angles are congruent."

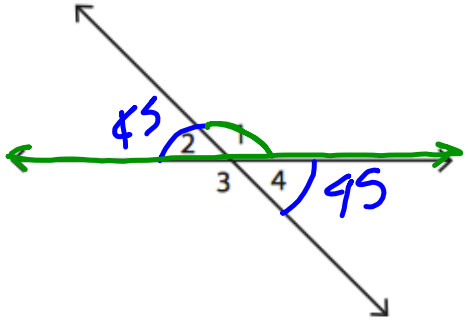


$\angle 1 \cong \angle 3$ $\angle 2 \cong \angle 4$

Which of these angles are adjacent?

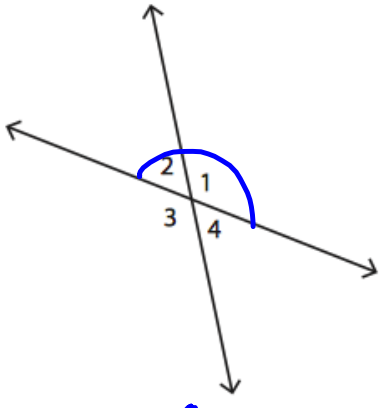
∠1 and ∠2 ∠1 and ∠4

∠3 and ∠4 ∠3 and ∠2



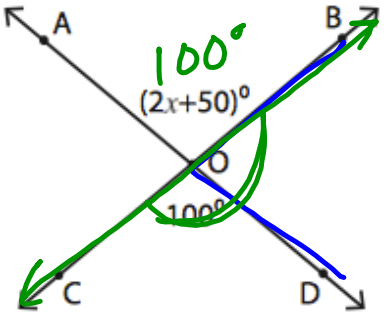
m∠1 = 135° m∠2 = 45°

m∠3 = 135° m∠4 = 45°



m∠1 = 123° m∠2 = 57°

m∠3 = 123° m∠4 = 57°



$x =$ 25

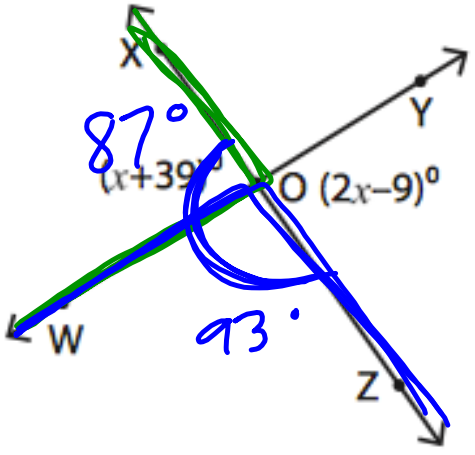
$\angle BOD =$ 180°

$2x + 50 = 100$

$-50 \quad -50$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25$



$x =$ 48

$\angle XOW =$ 87°

$\angle WOZ =$ 93°

$x + 39 = 2x - 9$

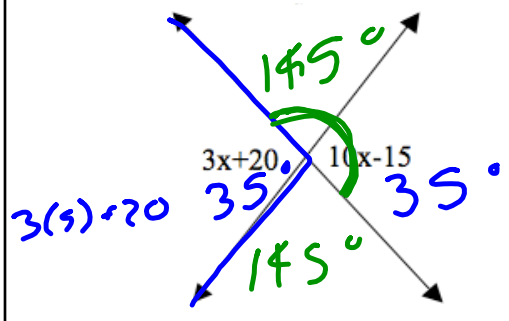
$-x \quad -x$

$39 = x - 9$

$+9 \quad +9$

$48 = x$

Use the vertical angle to solve for x. Then find the measure of each angle



$3x+20 = 10x-15$

$+15 \qquad +15$

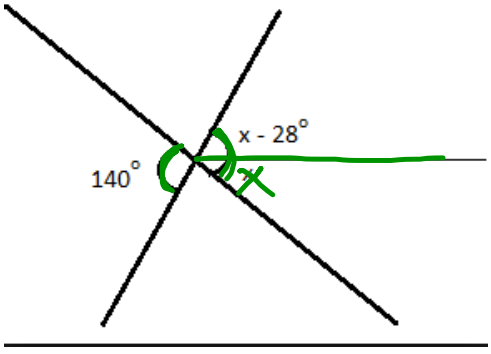
$3x+35 = 10x$

$-3x \qquad -3x$

$35 = 7x$

$x = 5$

Use the vertical angle to solve for x. Then find the measure of each angle.



$X + X - 28 = 140$

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