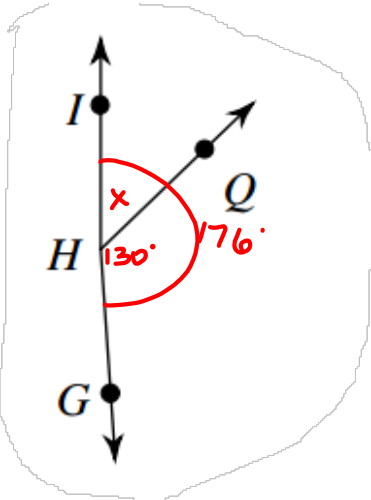


**DO NOW**

Find  $m\angle IHQ$  if  $m\angle IHG = 176^\circ$  and  $m\angle QHG = 130^\circ$ .



$$176 - 130 = x$$

$$46^\circ = x$$

$$x + 130 = 176$$

$$x = 46$$

Sep 12-9:53 AM

**HW Answers**

1. 70

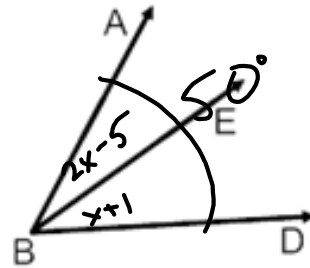
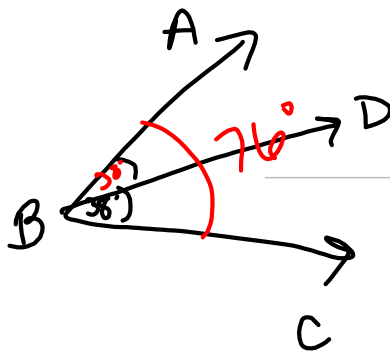
2. 30

3.  $\angle XYZ$ ,  $\angle ZYX$ ,  $\angle Y$

4.  $x = 18$

5. 38

6.  $y = 23$



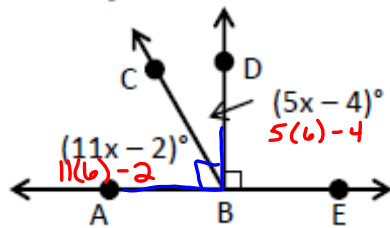
$$2x - 5 + x + 1 = 50$$

Sep 8-9:31 AM

## Complementary

Two or more angles are **Complementary** if the sum of their measures is  $90^\circ$ .

**Example 1:** Find  $m\angle ABC$  and  $m\angle CBD$ .



$$m\angle ABC = 64^\circ$$

$$m\angle CBD = 26^\circ$$

$$11x - 2 + 5x - 4 = 90$$

$$16x - 6 = 90$$

$$16x = 96$$

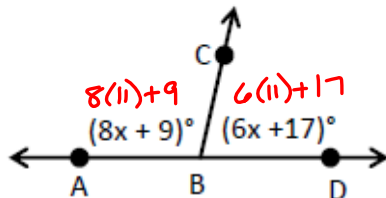
$$x = 6$$

Sep 5-12:55 PM

## Supplementary

Two or more angles are **Supplementary** if the sum of their measures is  $180^\circ$ .

**Example 2:** Find  $m\angle ABC$  and  $m\angle CBD$ .



$$m\angle ABC = 97^\circ$$

$$m\angle CBD = 83^\circ$$

$$8x + 9 + 6x + 17 = 180$$

$$14x + 26 = 180$$

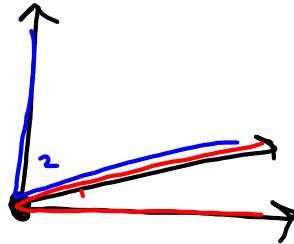
$$14x = 154$$

$$x = 11$$

Sep 5-12:56 PM

# Adjacent

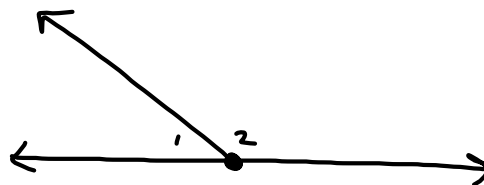
**Adjacent Angles** are two angles that share a common vertex and side, but have no common interior points.



Sep 5-12:58 PM

# Linear Pair

Two adjacent angles are a **Linear Pair** if their noncommon sides are opposite rays.



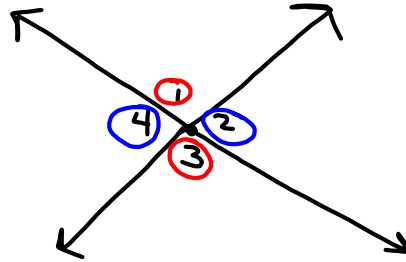
Linear Pairs are  
**SUPPLEMENTARY!**

Sep 5-12:59 PM

# Vertical

Two angles are **Vertical Angles** if their sides form two pairs of opposite rays. (Two intersecting lines)

are **NOT** adjacent!

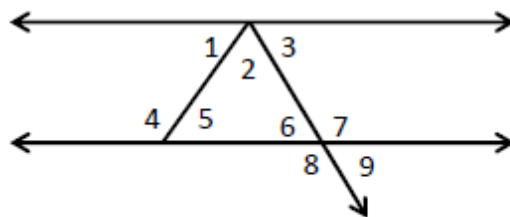


Vertical angles are CONGRUENT

$\angle 1$  and  $\angle 3$   
 $\angle 2$  and  $\angle 4$

Sep 5-12:59 PM

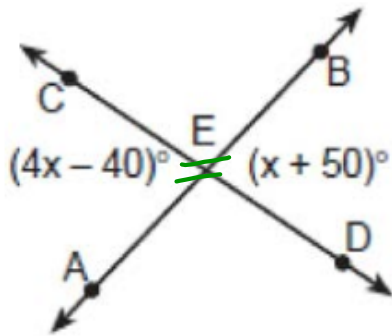
**Example 3:** Use the diagram to determine whether the angles are adjacent, vertical, a linear pair, or none of the above.



- a)  $\angle 1$  and  $\angle 2$  adjacent
- b)  $\angle 4$  and  $\angle 5$  linear pair  
adjacent
- c)  $\angle 7$  and  $\angle 9$  adjacent  $\rightarrow$  linear pair
- d)  $\angle 6$  and  $\angle 9$  vertical
- e)  $\angle 2$  and  $\angle 6$  none

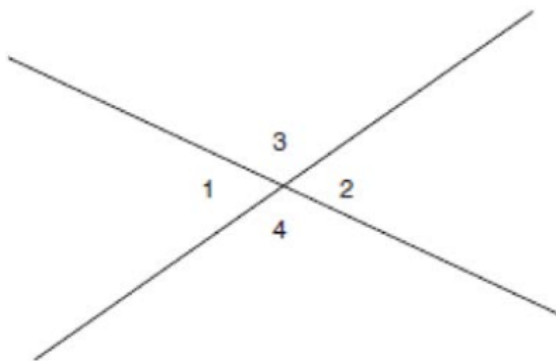
Sep 5-12:59 PM

In the accompanying diagram,  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{CD}$  intersect at  $E$ . If  $m\angle AEC = 4x - 40$  and  $m\angle BED = x + 50$ , find the number of degrees in  $\angle AEC$ .



Sep 8-9:37 AM

In the accompanying figure, two lines intersect,  $m\angle 3 = 6t + 30$ , and  $m\angle 2 = 8t - 60$ . Find the number of degrees in  $m\angle 4$ .



Sep 8-9:45 AM