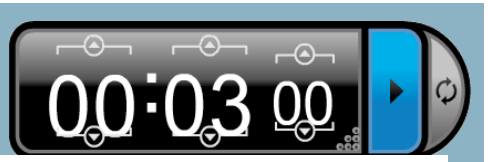
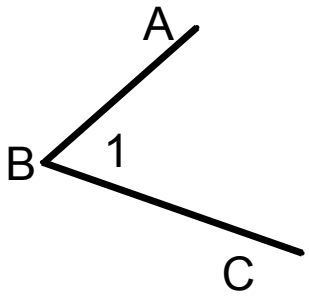
# 9/18 Do Now

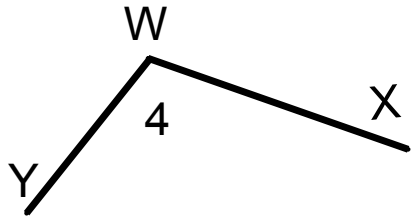



DO NOW Name_____ Date_____ Per_____

The angle at right can be called
angle B
∠B
∠ABC
∠CBA
∠1

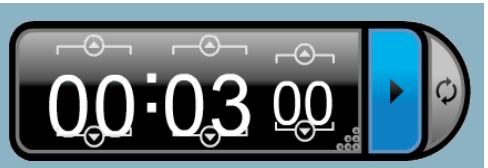



Name the angle at right in the same 4 ways




SLG: Solve for a variable and an angle measure by using angle addition.
CCSS Standard:

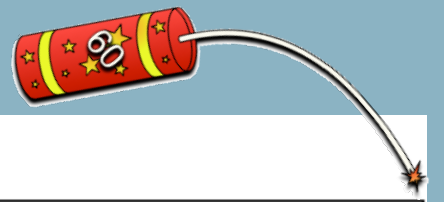
# 9/18 Do Now




## Do Now

SLG: Solve for a variable and an angle measure by using angle addition.
CCSS Standard:

# 9/18 Assignment sheet




Class _____ Period _____

| DATE | CLASSWORK ASSIGNMENT | HOMEWORK ASSIGNMENT |
|---|---|---|
| 9/17 | Copying Segments & Bisecting Angles #1-12+practice due 9/17 | Copying Segments & Bisecting Angles 6 construction due 9/18 |
| 9/18 | Angle Addition Exploration & Notes #1-19 odd due 9/18 | Angle Addition wksht due 9/19 |
| 9/19 | due | due |
| 9/20 | due | due |
| 9/21 | due | due |

SLG: Construct & name segments, bisect and name angles, and solve problems involving segment and angle addition

CCSS Standard:

# 9/18 HW Check & Questions


Copy a segment or bisect an angle

CCSS Standard:

9/18

# Adjacent Angle Addition

CHOOSE 1 PERSON IN YOUR GROUP WHO WILL CHECK OFF the TO DO LIST FOR EACH PERSON

BASIC INFORMATION: Angles are formed by the rotation of line segments, rays, or lines about a point called the **vertex** of the angle. The measure of the rotation is the measure of the angle.

GROUP EXPLORATION

☐☐☐☐ Make sure each person in the group has 3 strips of different colors (example: white, red, & yellow) and one fastener.

☐☐☐☐ Fasten all 3 strips together at one end with the fastener. Keep all strips lined up on top of one another.

☐☐☐☐ Rotate the top strip to the right to make an acute angle. Estimate the measure of the angle _____.

☐☐☐☐ Without changing the angle you made, rotate the bottom strip to the left to make an acute angle with the middle strip. Estimate the measure of the angle _____.

☐☐☐☐ The angle you made on the right and the angle you made on the left are called **adjacent angles**. They share the middle strip, or the middle side of the angle. If you add their measures, do you think you will get the measurement for the whole angle? Why?

☐☐☐☐ Does the length of the strip change the measure of the angle? Does it change the size of the angle? Why or why not?

The measures of adjacent angles can be added to find the measure of the larger angle they form together. This is called the **angle addition postulate**. (a **postulate** is an accepted fact).

# 9/18 Adjacent Angle Addition

## Adjacent Angles and the Angle Addition Postulate

Next door neighbors...

What does adjacent mean? Who lives adjacent to you? No, it's not the scary old man across the street. It's the person whose house or condo or apartment is directly next to yours. (Maybe even connected to yours if you have the right kind of house...) Adjacent angles are the same way. Look....

These are adjacent angles...

Fig. 1

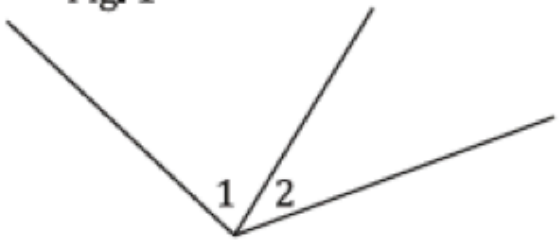



Fig. 2

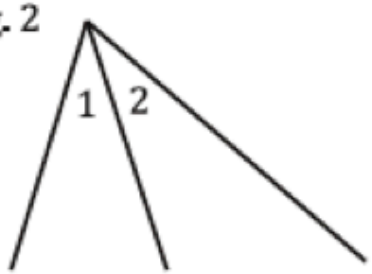
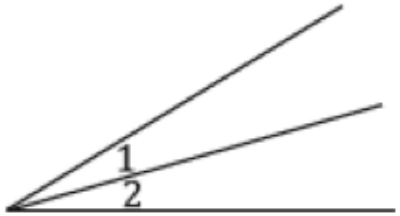



Fig. 3




These are not...

Fig. 4

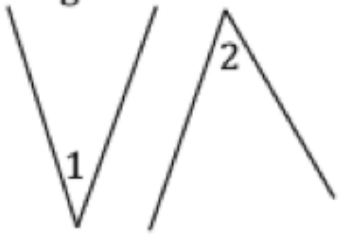



Fig. 5

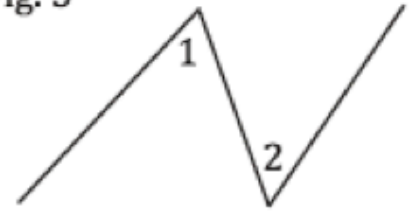
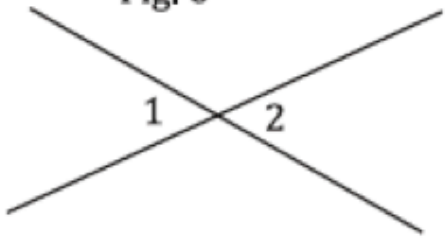



Fig. 6

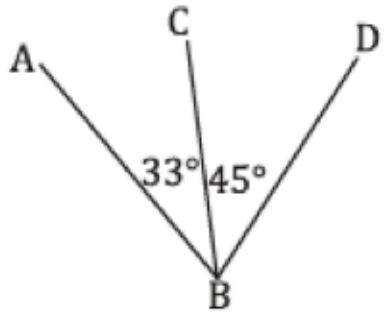



The definition of Adjacent Angles is any two angles that share a common ray and vertex. They mus share both if they share neither. That is Fig. 4. If they share just the ray that is Fig. 5, and if they share just the vertex that is Fig. 6.

# 9/18 Adjacent Angle Addition

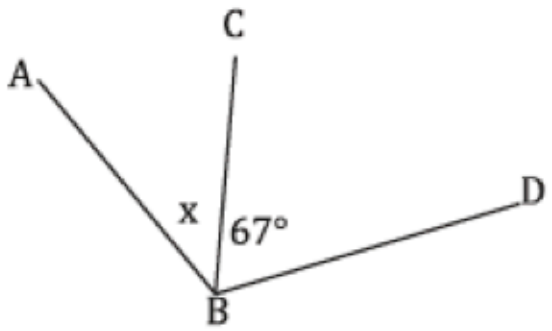
The Angle Addition Postulate. One way of describing a postulate is.... "oh duh."

Well, this should be "oh duh" to you. If you add the measures of two adjacent angles it gives you the measure of the larger third angle... Check it out....




If I add m∠ABC and m∠CBD I get 78° which is of course m∠ABD. "Oh duh" right? Right.... Good...Okay, let's look at one more example...

m∠ABD=120°, m∠CBD =67°. Find m∠ABC.

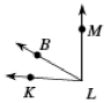



Well, since we know m∠ABC+m∠CBD=120°, we get m∠ABC+67°=120°. A little easy algebra and presto, m∠ABC=53°! Off to the practice grounds with you! (They're right next door...)

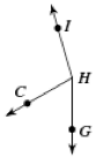
9/18

# Angle Addition Postulate

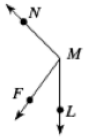
1) Find $m\angle KLM$ if $m\angle KLB = 26°$ and $m\angle BLM = 60°$.



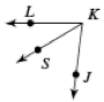

3) $m\angle GHC = 60°$ and $m\angle CHI = 104°$. Find $m\angle GHI$.



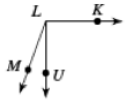

5) $m\angle FMN = 99°$ and $m\angle LMF = 36°$. Find $m\angle LMN$.



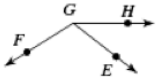

7) Find $m\angle JKL$ if $m\angle SKL = 31°$ and $m\angle JKS = 52°$.



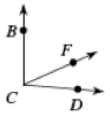

9) Find $m\angle KLU$ if $m\angle ULM = 20°$ and $m\angle KLM = 110°$.



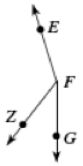

11) $m\angle HGF = 16x + 4$, $m\angle EGF = 110°$, and $m\angle HGE = 3x + 11$. Find $x$.



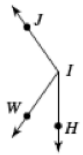

13) $m\angle FCD = x + 41$, $m\angle BCF = x + 78$, and $m\angle BCD = 95°$. Find $x$.



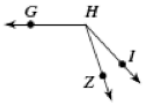

15) $m\angle GFZ = 38°$, $m\angle ZFE = 2x + 125$, and $m\angle GFE = x + 163$. Find $x$.




17) Find $m\angle HIW$ if $m\angle WIJ = 10x$, $m\angle HIJ = 145°$, and $m\angle HIW = 2x + 13$.

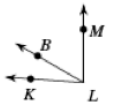



19) $m\angle ZHG = 11x - 1$, $m\angle IHZ = 24°$, and $m\angle IHG = 12x + 13$. Find $m\angle IHG$.



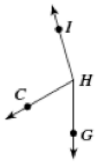
9/18 # Angle Addition Postulate

1) Find $m\angle KLM$ if $m\angle KLB = 26°$ and $m\angle BLM = 60°$.



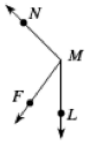

86°

3) $m\angle GHC = 60°$ and $m\angle CHI = 104°$. Find $m\angle GHI$.



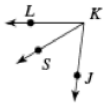

164°

5) $m\angle FMN = 99°$ and $m\angle LMF = 36°$. Find $m\angle LMN$.



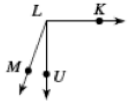

135°

7) Find $m\angle JKL$ if $m\angle SKL = 31°$ and $m\angle JKS = 52°$.



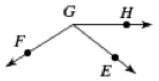

83°

9) Find $m\angle KLU$ if $m\angle ULM = 20°$ and $m\angle KLM = 110°$.



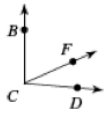

90°

11) $m\angle HGF = 16x + 4$, $m\angle EGF = 110°$, and $m\angle HGE = 3x + 11$. Find $x$.



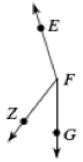

9

13) $m\angle FCD = x + 41$, $m\angle BCF = x + 78$, and $m\angle BCD = 95°$. Find $x$.




−12

15) $m\angle GFZ = 38°$, $m\angle ZFE = 2x + 125$, and $m\angle GFE = x + 163$. Find $x$.

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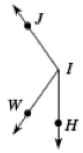
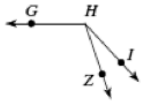
17) Find $m\angle HIW$ if $m\angle WIJ = 10x$, $m\angle HIJ = 145°$, and $m\angle HIW = 2x + 13$.




35°

19) $m\angle ZHG = 11x - 1$, $m\angle IHZ = 24°$, and $m\angle IHG = 12x + 13$. Find $m\angle IHG$.




133°

# 9/18 Geometry PRIDE


Names & accomplishments

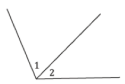
CCSS Standard:

9/18 **Homework**

Front and back of this sheet

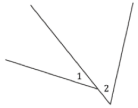
If the pair of angles is adjacent, bubble "T". If not, bubble "F".

1.

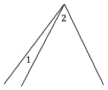



2.

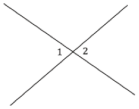

3.



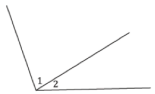

4.



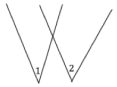

5.



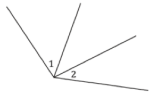

6.




7.




8.




Bubble T for True and F for False.

| #1. | #2. | #3. | #4. | #5. | #6. | #7. | #8. |
|---|---|---|---|---|---|---|---|
| ○T | ○T | ○T | ○T | ○T | ○T | ○T | ○T |
| ○F | ○F | ○F | ○F | ○F | ○F | ○F | ○F |

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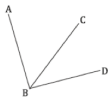
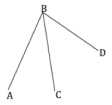
Find the indicated angle measure.

1. m∠ABC=51°, m∠CBD=38°. Find m∠ABD.

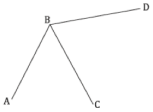



51°+38°=89°
m∠ABD=89°

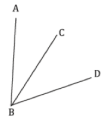
2. m∠ABC=31°, m∠CBD=43°. Find m∠ABD.



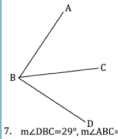

3. m∠ABC=44°, m∠ABD=163°. Find m∠CBD.



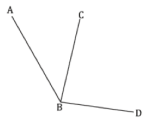

4. m∠ABC=21°, m∠ABD=78°. Find m∠CBD.



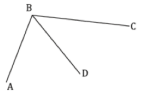

5. m∠ABC=42°, m∠CBD=35°. Find m∠ABD.



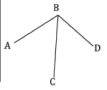

6. m∠ABC=36°, m∠ABD=125°. Find m∠CBD.




7. m∠DBC=29°, m∠ABC=112°. Find m∠ABD.




8. m∠CBD=48°, m∠ABD=97°. Find m∠CBD.




Bubble all the correct answers from above. Don't bubble incorrect answers.

○89° ○87° ○83° ○46° ○49° ○77° ○113° ○78° ○89° ○88° ○74° ○88° ○57° ○119°

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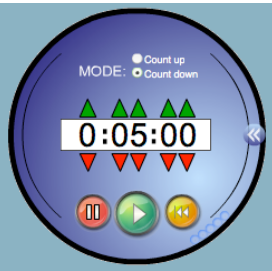
# 9/18 Ticket Out the Door




Ticket out the door Name_____ Date_____ Per_____

☹ 1 2 3 4 5 ☺ because:

Today I learned about _____.
To do this I need to _____.
One question I still have is _____.

CCSS Standard:

# 9/17 Quiz

Face desks forward and clear desk except for

Communication of any sort = ZERO

RAISE YOUR HAND silently if you need something

CCSS Standard:

9/17

# Test

Face desks forward and clear desk except for

Communication of any sort = ZERO

RAISE YOUR HAND silently if you need something

CCSS Standard: