

Your Math Story

Write a paragraph about your first memory of mathematics as well as your best and not-so-best interaction with math.

Warm Up

Solve for x.

$$1. \quad 8x - 8 - 6x = 20 \quad (X = 14)$$

$$\begin{array}{r} 2x - 8 = 20 \\ + 8 \quad + 8 \\ \hline 2x = 28 \\ \frac{2x}{2} = \frac{28}{2} \end{array}$$

$$2. \quad \frac{2}{3}x + 2 = 8 \quad (X = 9)$$

$$\begin{array}{r} \frac{2}{3}x + 2 = 8 \\ - 2 \quad - 2 \\ \hline \frac{2}{3}x = 6 \end{array}$$

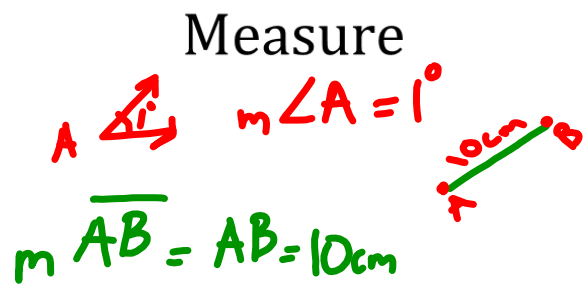
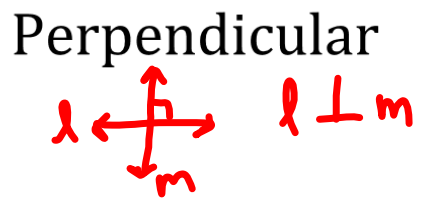
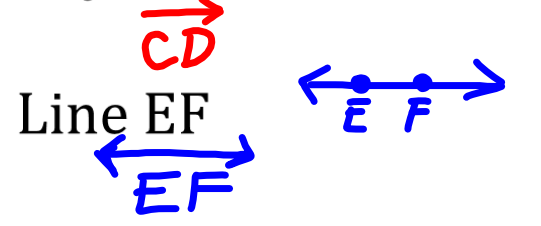
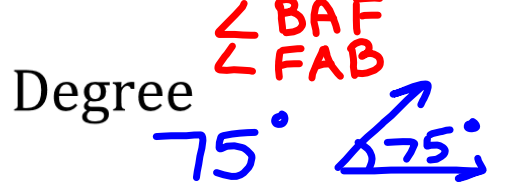
$$\left(\frac{3}{2}\right) \left(\frac{2}{3}\right) x = 6 \left(\frac{3}{2}\right)$$

$$x = \frac{18}{2} = 9$$

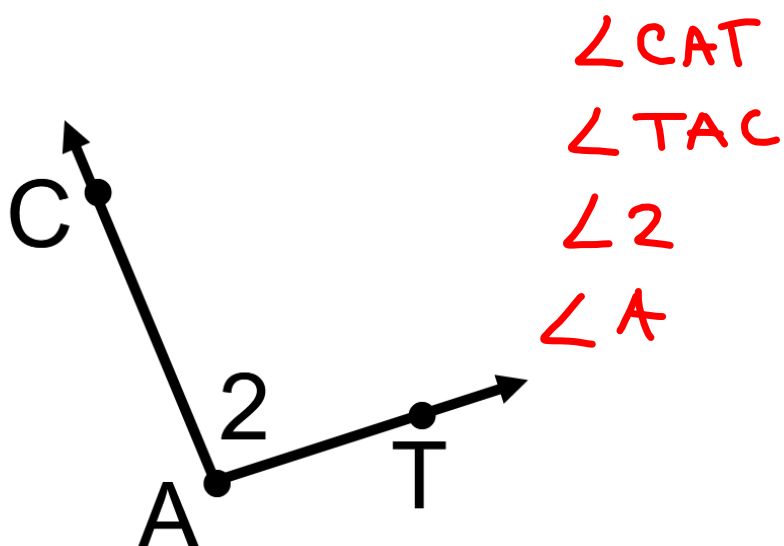
$$3. \quad 11x - 21 = 17 - 8x \quad (X = 2)$$

$$\begin{array}{r} 11x - 21 = 17 - 8x \\ + 8x \quad + 8x \\ \hline 19x - 21 = 17 \\ + 21 \quad + 21 \\ \hline 19x = 38 \\ \frac{19x}{19} = \frac{38}{19} \\ x = 2 \end{array}$$

Symbols to Know



Name this angle 4 different ways.



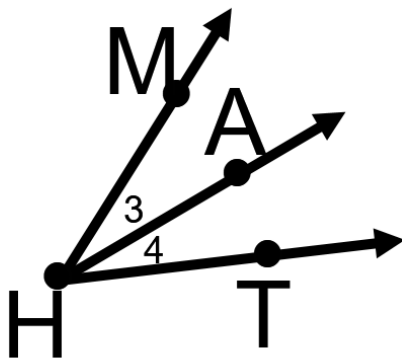
Name the ways can you name $\angle 3$?

$\angle MHA$, $\angle AHM$

Name the ways can you name $\angle 4$?

$\angle THA$, $\angle AHT$

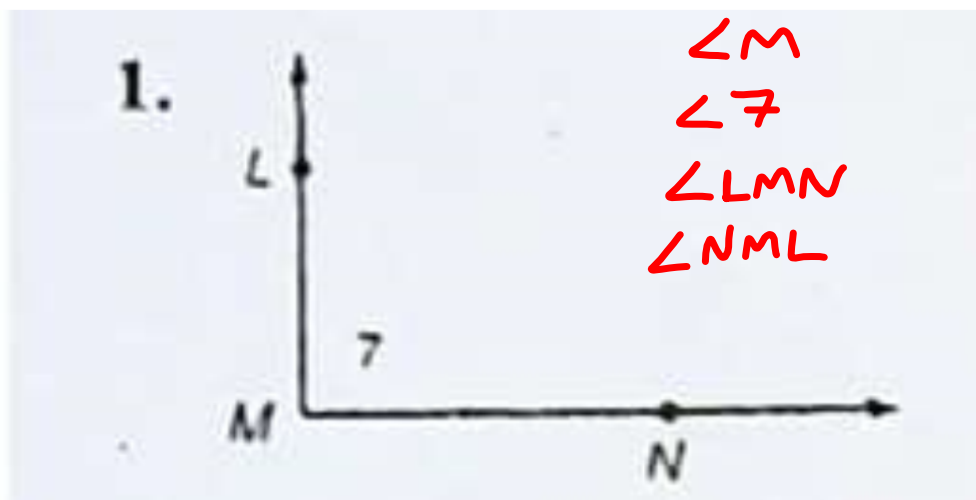
Name the ways can you name $\angle MHT$?



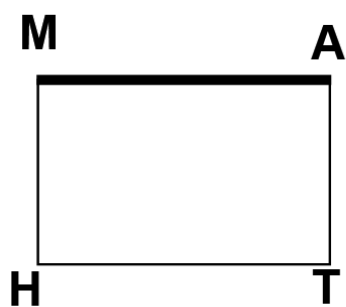
$\angle THM$

Cannot call it
 $\angle H$ - because
it is ambiguous!

Name the angle 4 ways.



How do you name the **bolded** side?



\overline{MA} or \overline{AM}

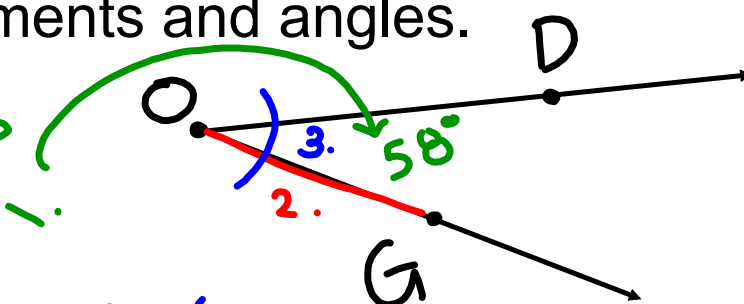
What side is opposite the bolded side?

\overline{HT} or \overline{TH}

Warm-up

7 January 2020

Label the segments and angles.

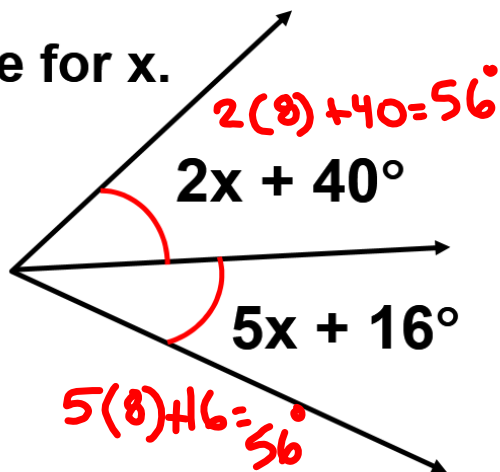
1. $m\angle DOG$ 2. \overline{OG} 3. $\angle O$, $\angle 3$, $\angle DOG$, $\angle GOD$ 

Angle Bisector

Cuts an angle in to two
congruent angles

*If angles are congruent,
their measures are equal!*

Solve for x.

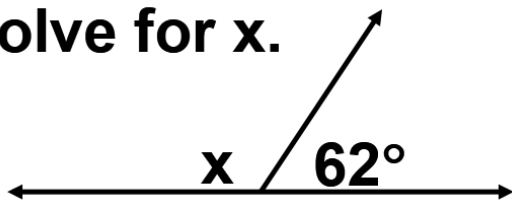


$$\begin{array}{r}
 2x + 40 = 5x + 16 \\
 \underline{-2x \quad -2x} \\
 40 = 3x + 16 \\
 \underline{-16 \quad -16} \\
 24 = 3x \\
 \frac{24}{3} = \frac{3x}{3} \\
 x = 8
 \end{array}$$

Linear Pair

Two angles that are side-by-side, share a common vertex, share a common ray, & create a line.

Solve for x.



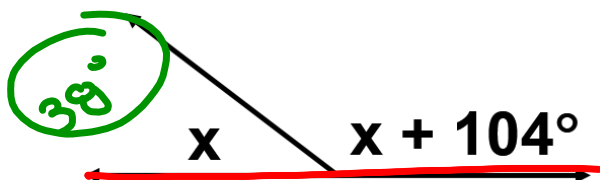
Equation:

$$\underline{x} + \underline{62^\circ} = 180^\circ$$

$$\begin{array}{r} -62 \\ \hline \end{array}$$

$$\underline{x = 118^\circ}$$

The following angles are linear pairs.
Solve for x.



$$\underline{x} + \underline{x + 104} = 180$$

$$\begin{array}{r} 2x + 104 = 180 \\ -104 \quad -104 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{76}{2}$$

$$\underline{x = 38}$$

Supplementary Angles

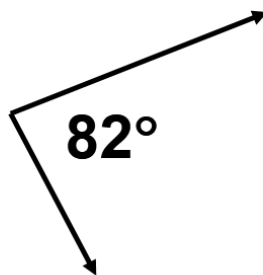
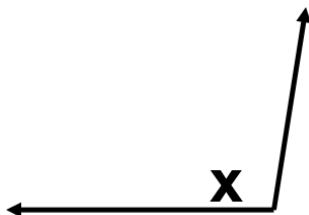
Two angles that add up to 180°.

Equation:

$$\underline{x} + \underline{82} = 180^\circ$$

$$\underline{-82} \quad \underline{-82}$$

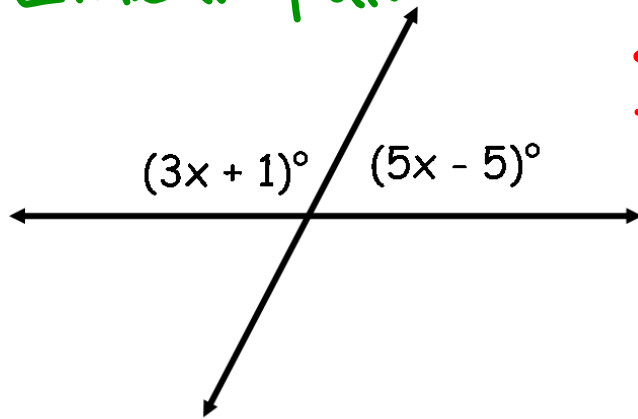
$$\underline{x = 98^\circ}$$



Solve for x if the following 2 angles are supplementary.

What type of angles are shown below?

Linear Pair



Solve for x.

$$\underline{3x+1} + \underline{5x-5} = 180$$

$$8x - 4 = 180$$
$$\quad +4 \quad +4$$

$$\underline{8x = 184}$$

$$\underline{X = 23^\circ}$$

$\angle 13$ and $\angle 14$ are supplementary angles

$m\angle 13 = 47^\circ$. Find $m\angle 14$.

$$\begin{array}{r} 180 \\ - 47 \\ \hline 133 \end{array}$$

$$m\angle 14 = 133^\circ$$

One of two supplementary angles is 46 degrees more than its supplement. Find the measure of both angles.

1st Angle:

$$m\angle 1 = 113^\circ$$

2nd Angle:

$$m\angle 2 = 67^\circ$$

$$\begin{array}{r} 46 + x = 180 \\ -46 \quad -46 \\ \hline x = 134 \end{array}$$

Where's the error?

$$\begin{array}{c} x \quad x + 46 \\ \hline \end{array}$$

$$\begin{array}{r} x + x + 46 = 180 \\ \hline 2x + 46 = 180 \\ 2x = 134 \\ \frac{2x}{2} = \frac{134}{2} \\ x = 67 \end{array}$$

Complementary Angles

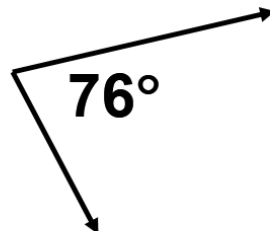
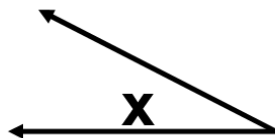
Two angles that add up to 90°.

Equation:

$$\underline{x} + \underline{76^\circ} = 90^\circ$$

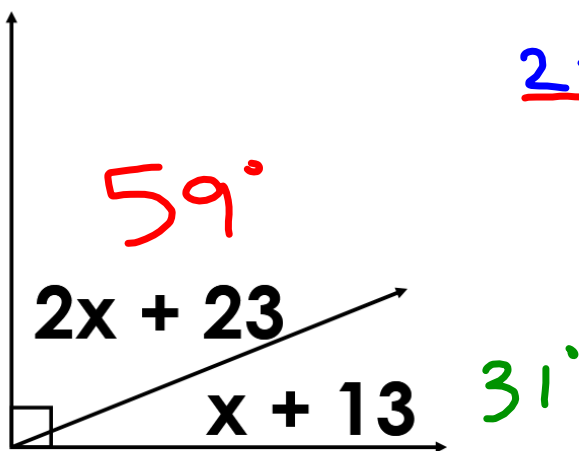
$$\underline{-76 \quad -76}$$

$$x = 14^\circ$$



Solve for x if the following 2 angles are complementary.

Solve for x.



Complementary

$$\underline{2x + 23} + \underline{x + 13} = 90$$

$$3x + 36 = 90$$
$$\underline{-36 \quad -36}$$

$$\frac{3x}{3} = \frac{54}{3}$$

$$x = 18$$

One of two complementary angles is 16 degrees less than its complement.
Find the measure of both angles.

1st Angle:

$$m\angle 1 = 53^\circ$$

2nd Angle:

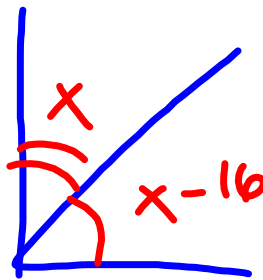
$$m\angle 2 = 37^\circ$$

$$\underline{x + x - 16 = 90}$$

$$\begin{array}{r} 2x - 16 = 90 \\ +16 \quad +16 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{106}{2}$$

$$x = 53$$

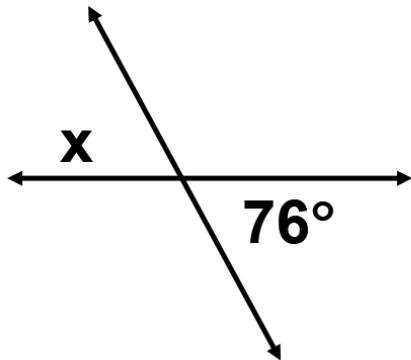


Vertical Angles



Two angles that share a common vertex and their sides form two pairs of opposite rays.

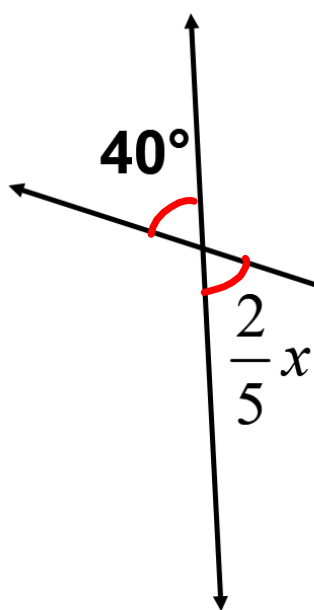
Solve for x.



Equation:

$$\underline{x} = \underline{76^\circ}$$

Solve for x.

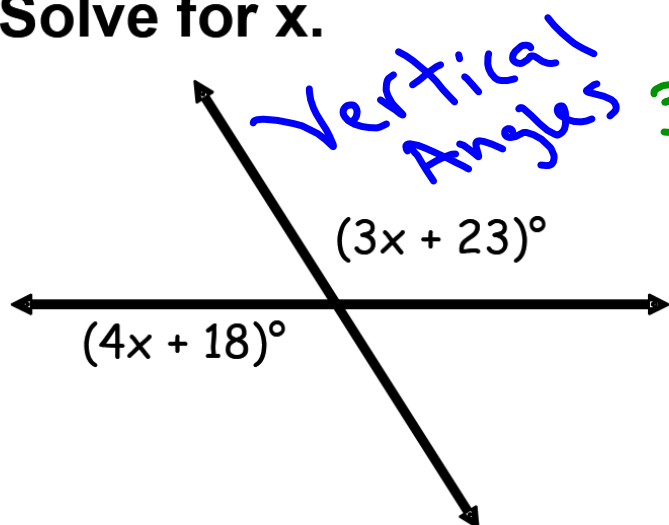


$$\left(\frac{5}{2}\right)40 = \frac{2}{5}x \left(\frac{5}{2}\right)$$

$$x = \frac{200}{2}$$

$$x = 100^\circ$$

Solve for x.



Vertical
Angles

$$3x + 23 = 4x + 18$$

-18

-18

$$3x + 5 = 4x$$

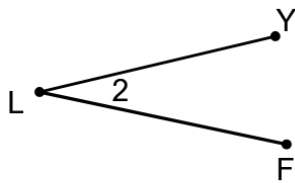
-3x

-3x

$$x = 5$$

Recap:

Name the below angle 4 different ways.



$\angle YLF$

$\angle FLY$

$\angle 2$

$\angle L$

Two angles that have a sum of 90 degrees are called _____

Complementary

What does it mean if two angles are supplementary?

$x + y = 180^\circ$

Name the angle relationship between the following angle pairs.

$\angle GLO$ and $\angle FLY$: \checkmark A congruent

$\angle OLG$ and $\angle FLG$: LP
Supplementary

What is $m\angle OLG + m\angle FLG =$ 180° ?

