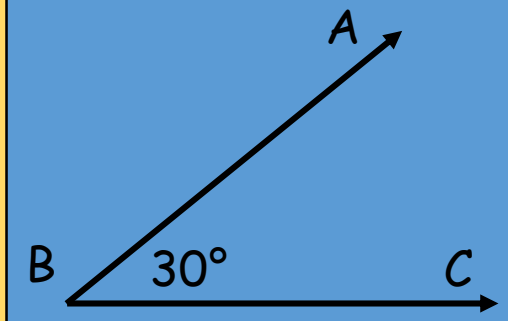
Classifying Angles

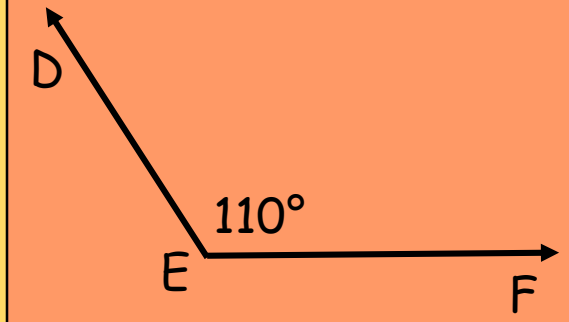
Acute



An angle that measures between 0 and 90 degrees.

Example: ∠ABC is an acute angle.
m∠ABC = 30.

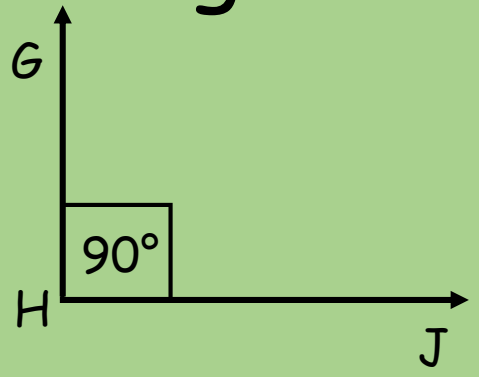
Obtuse



An angle that measures between 90 and 180 degrees.

Example: ∠DEF is an obtuse angle.
m∠DEF = 110.

Right

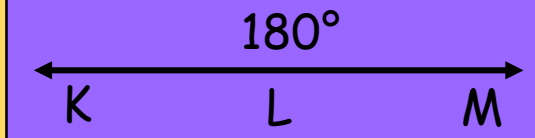


An angle that measures exactly 90 degrees.

Example: ∠GHJ is a right angle. m∠GHJ = 90.

A right angle in a diagram is denoted by a square in the corner of the angle.

Straight

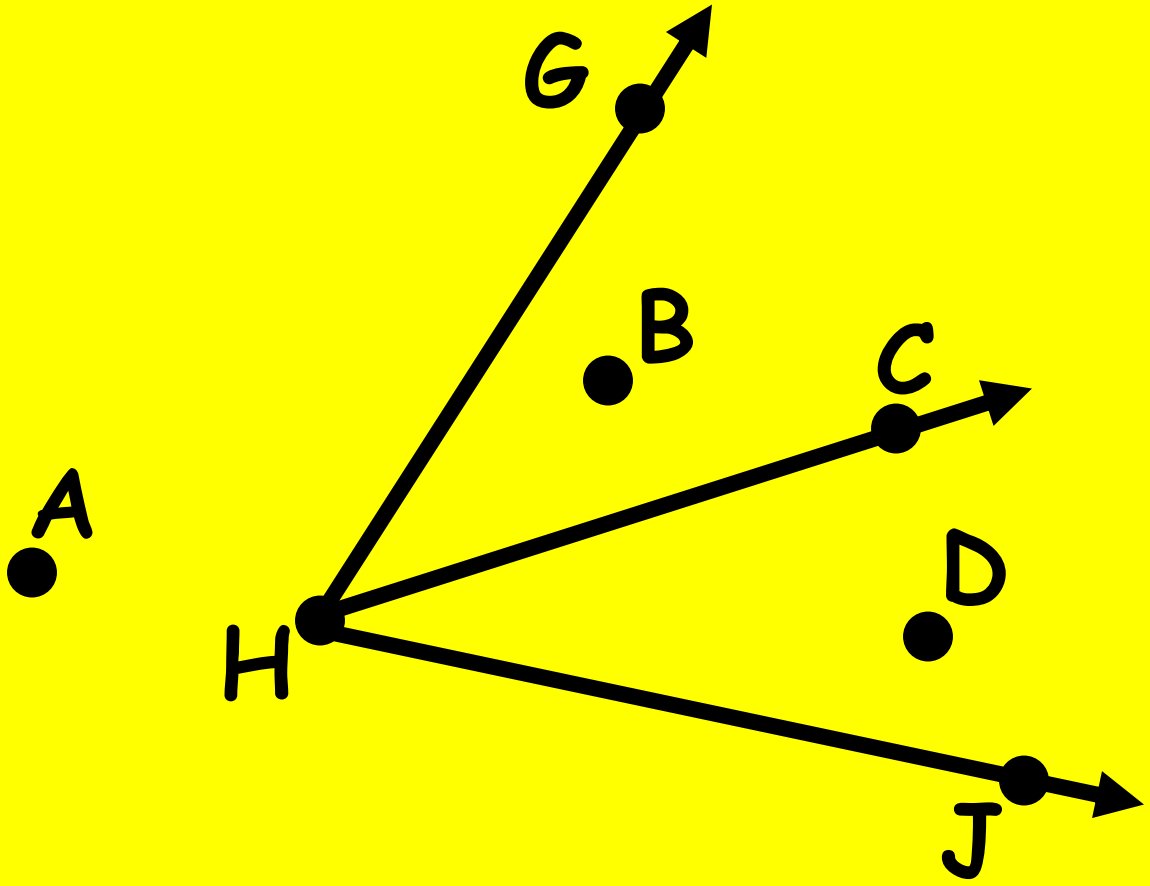


An angle that measures exactly 180 degrees.

Example: ∠KLM is a straight angle.
m∠KLM = 180.

Angle Interior

Any points that lie inside the rays of an angle.



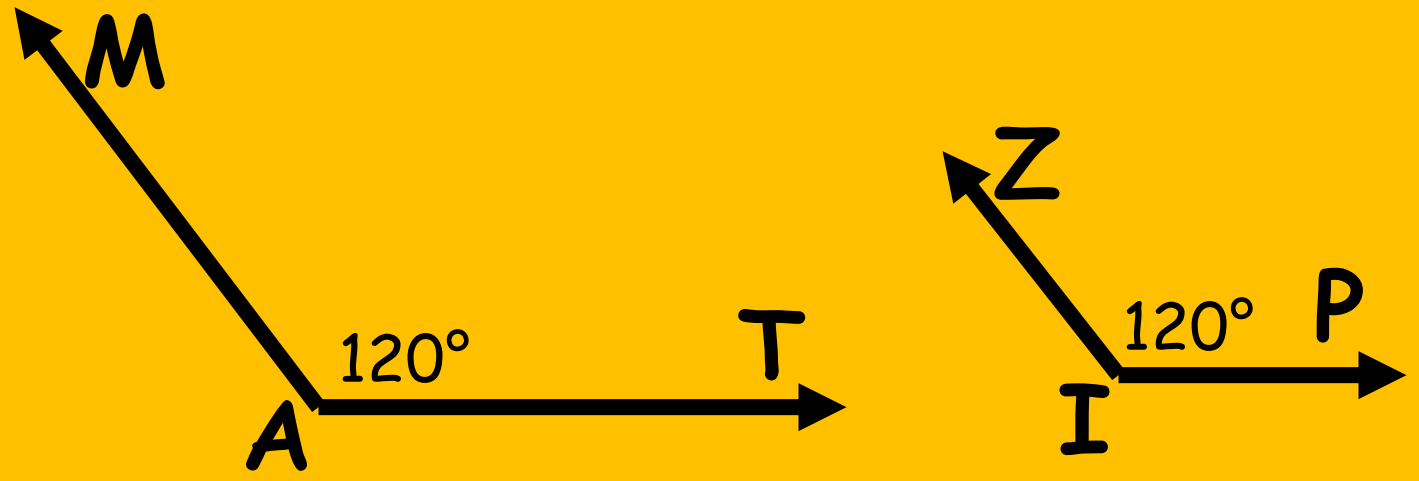
Examples:

- Point B is in the interior of $\angle GHC$
- Point D is in the interior of $\angle GHJ$ and $\angle CHJ$
- Point A is NOT in the interior of $\angle GHJ$

Congruent Angles

Recall the Definition of Congruent: Figures that are the same shape and size.

Congruent Angles – angles that have equal measures.



Notation:

$\angle MAT \cong \angle ZIP$

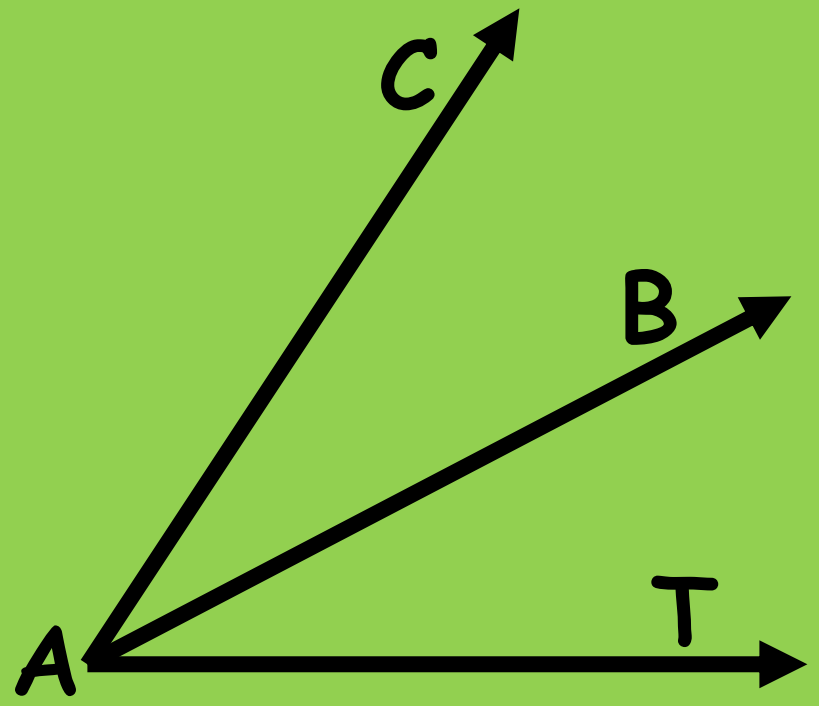
$m\angle MAT = m\angle ZIP$

Adjacent Angles

Two angles that…
1) Share a side.
2) Share their vertex.
3) Do not overlap (share any interior points).

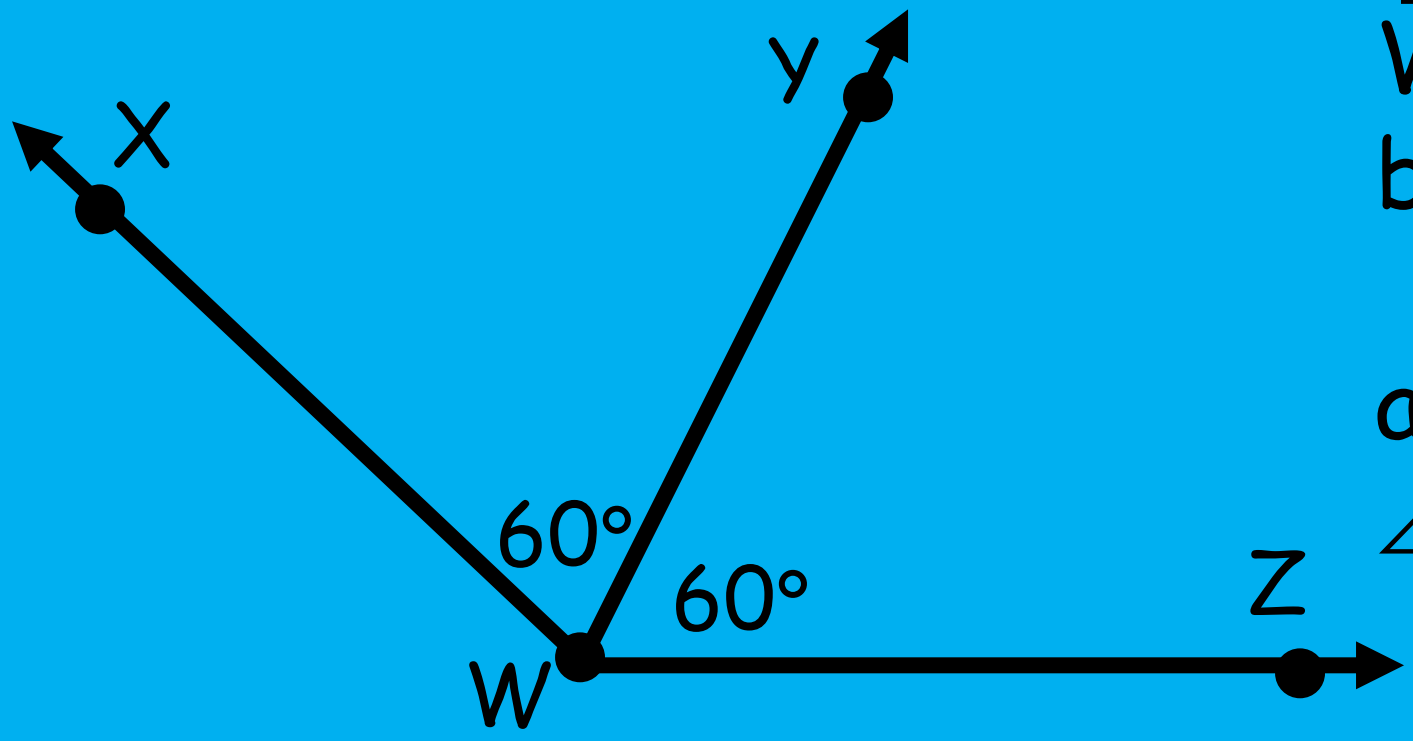
$\angle CAB$ and $\angle BAT$ are adjacent angles.

$\angle CAT$ and $\angle BAT$ are NOT adjacent because they share interior points (overlap).



Angle Bisector

a ray that divides an angle into two congruent adjacent angles.

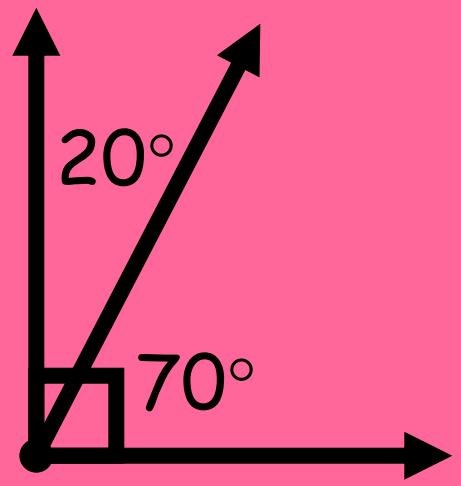


$\overrightarrow{WY}$ is the angle bisector of $\angle XWZ$.

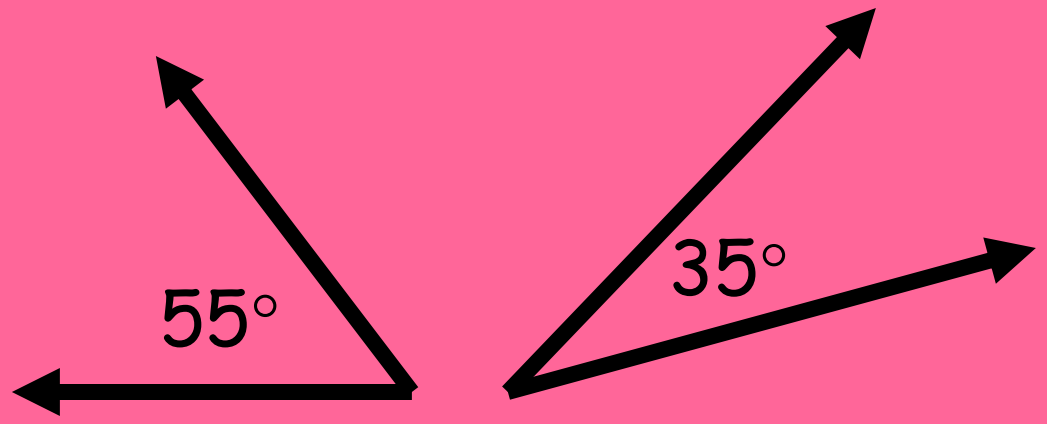
and therefore,
$\angle XWY \cong \angle YWZ$

Complementary Angles

two angles whose measures sum to 90°.



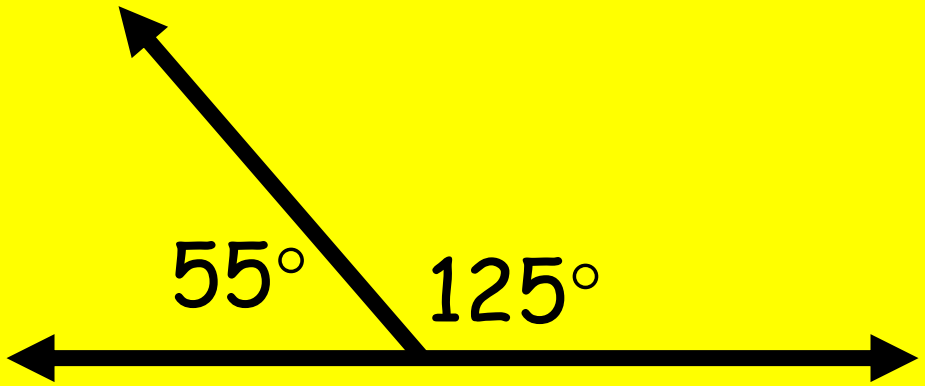
Complementary & Adjacent Angles



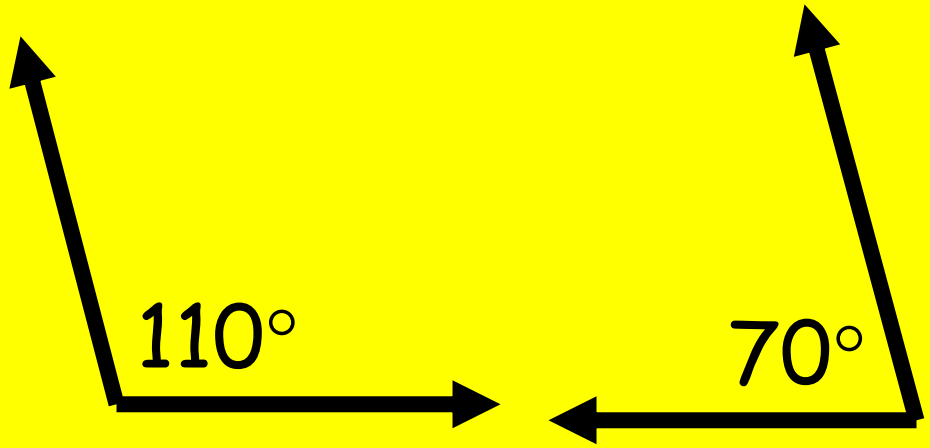
Complementary Angles

Supplementary Angles

two angles whose measures sum to 180°.



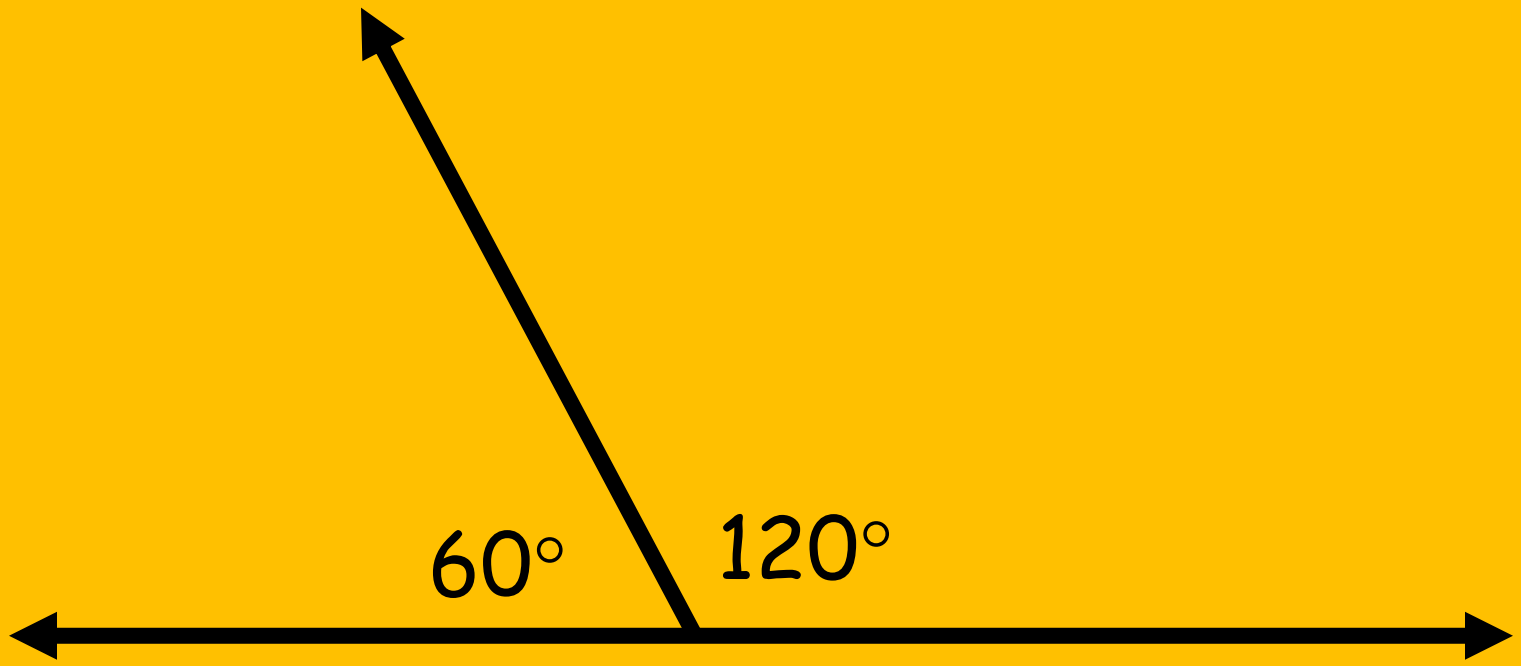
Supplementary &
Adjacent Angles



Supplementary Angles

Linear Pair

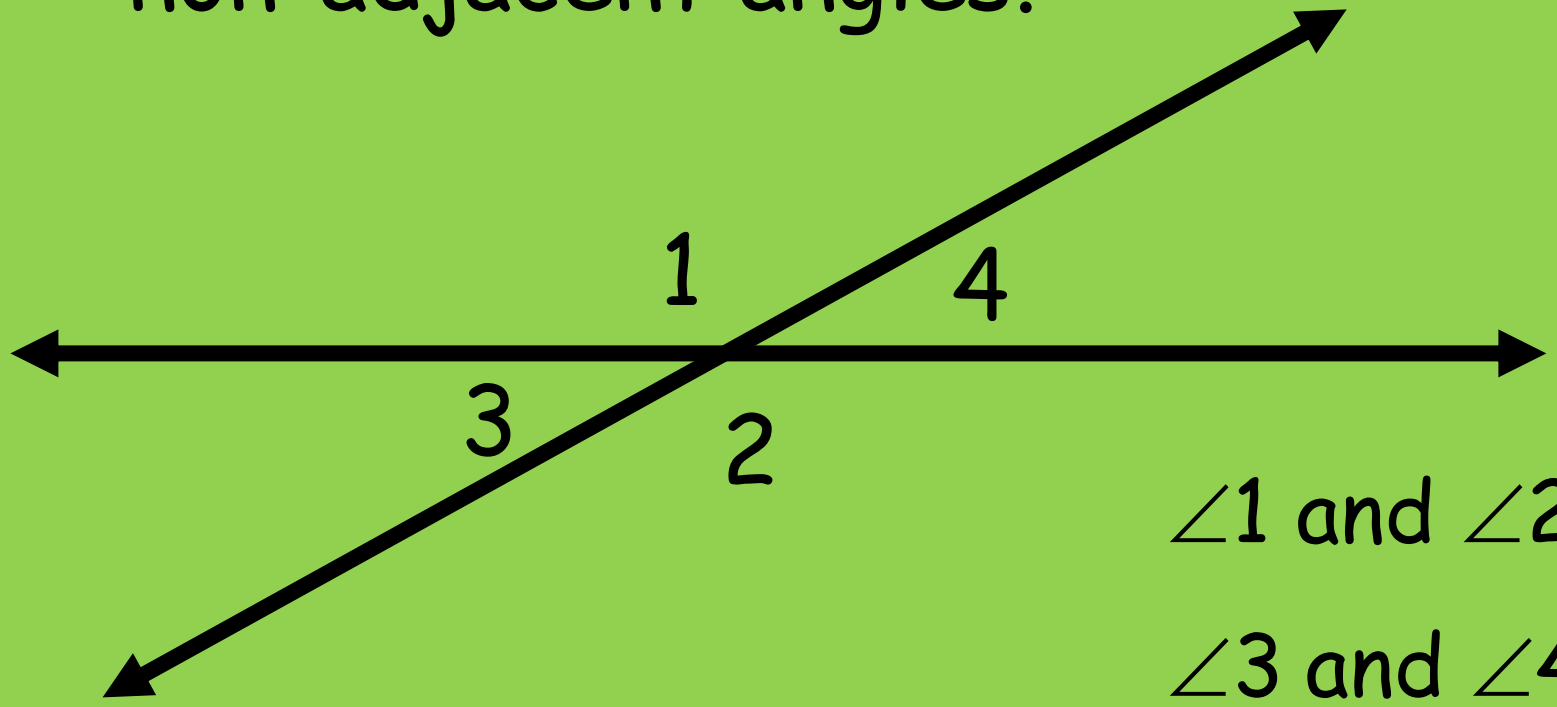
two supplementary, adjacent angles.



Linear Pair = *A Pair* of Angles that forms a *Line*.

Vertical Angles

When two lines intersect, they form two pairs of vertical angles. The vertical angle pairs are the non-adjacent angles.



$\angle 1$ and $\angle 2$ are vertical angles.

$\angle 3$ and $\angle 4$ are vertical angles.