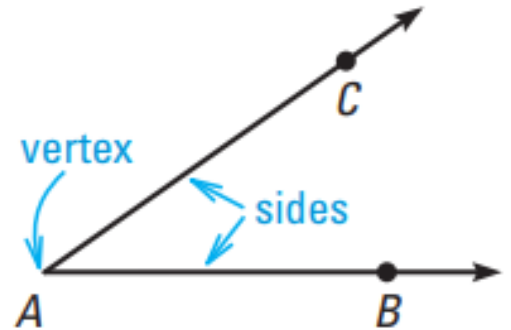


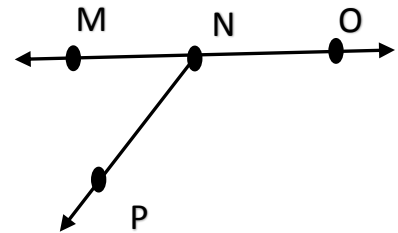
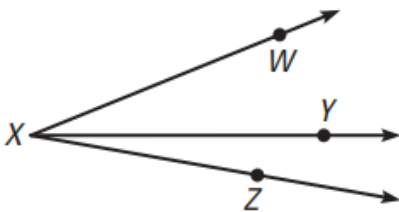
1.4 Measure and Classify Angles

- ❖ Angle: consists of two rays that have the same endpoint
- ❖ The rays are called the sides of the angle and the endpoint is called the vertex of the angle.
- ❖ The angle with sides \overrightarrow{AB} and \overrightarrow{AC} can be named $\angle BAC$, $\angle CAB$ or $\angle A$.
- ❖ Point A is the vertex of the angle.



Example 1:

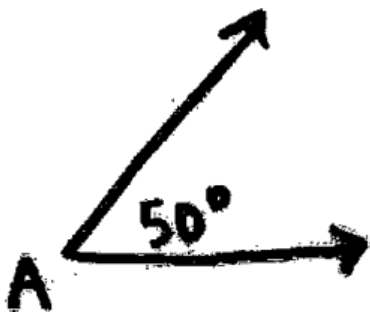
Name the angles.



$\angle WXZ$, $\angle YXZ$, $\angle YXW$

$\angle MNP$, $\angle PNO$, $\angle MNO$

- ❖ The measure of an angle is denoted by $m\angle A$.



$$m\angle A = 50^\circ$$

❖ Congruent angles have the same ^{measure} ~~area~~.

$$m\angle A = m\angle B$$

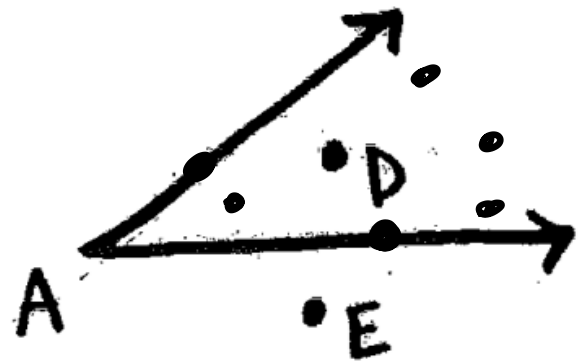
$$\angle A \cong \angle B$$

measurements
are equal

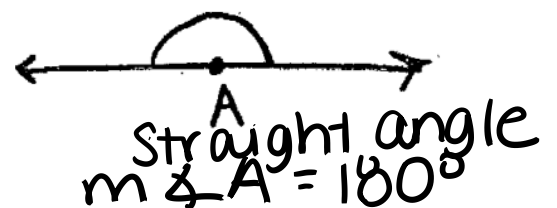
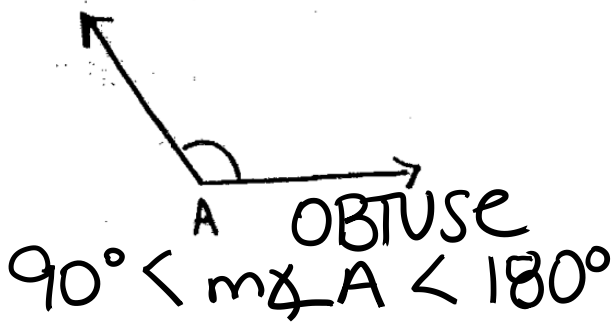
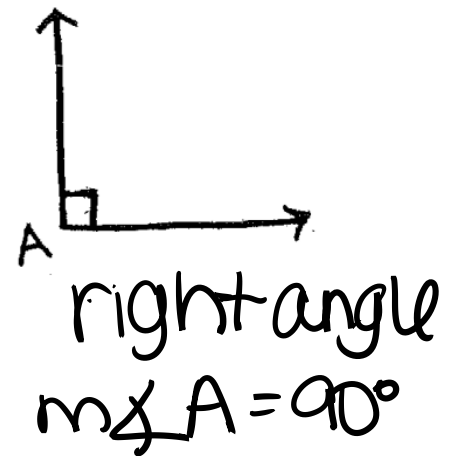
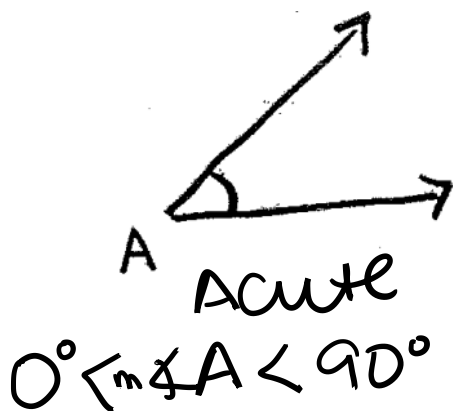
angles are
congruent

❖ D is in the interior of $\angle A$.
It lies between each side of the angle.

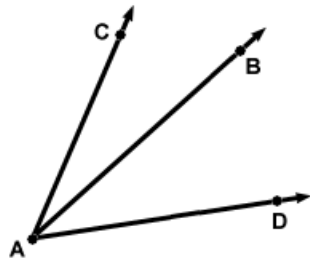
❖ E is in the exterior of $\angle A$.
It is not on the angle or in its interior.



Classifying Angles

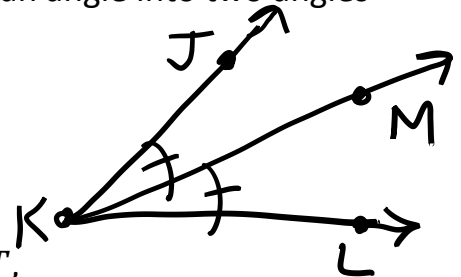


- ❖ Two angles are adjacent if they share a common vertex and side, but have **no common interior points**.



$\angle CAB$ and $\angle BAD$
are adjacent

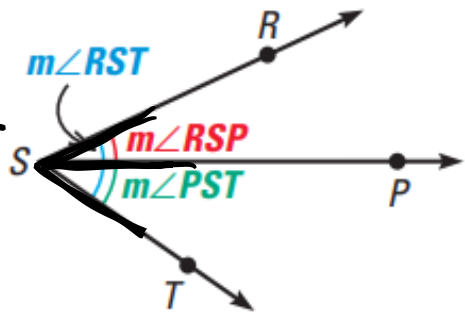
- ❖ **Angle Bisector:** a ray that divides an angle into two angles that are congruent.



Angle Addition Postulate

- ❖ If P is in the interior of $\angle RST$, then

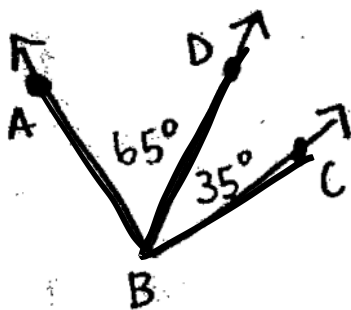
$$m\angle RSP + m\angle PST = m\angle RST$$



Examples

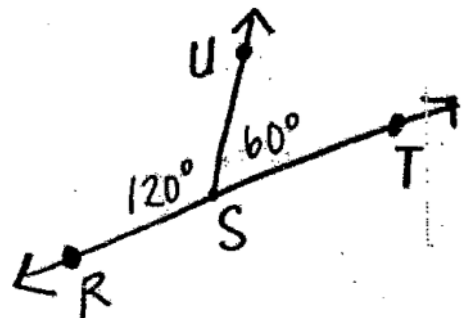
Find the measure of the unknown angle.

1.



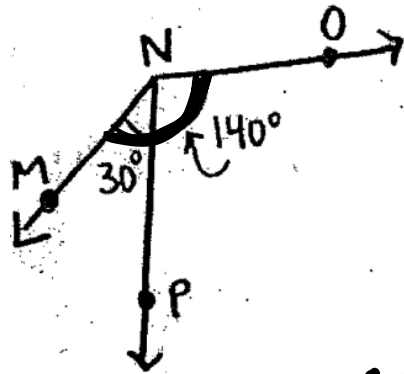
$$m\angle ABC = 100^\circ$$

2.



$$m\angle RST = 180^\circ$$

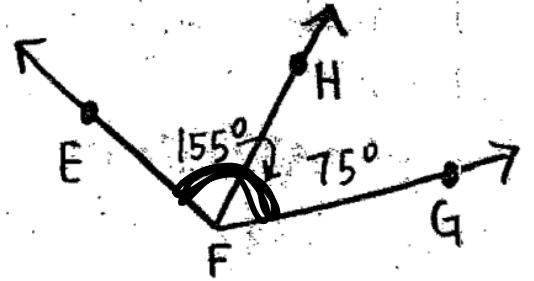
3.



$$m\angle ONP = 110^\circ$$

$$140 - 30$$

4.



$$m\angle EFH = 80^\circ$$

$$155 - 75 =$$

Measure the following angles using a protractor.

