Name _____ Date _____ Period 2

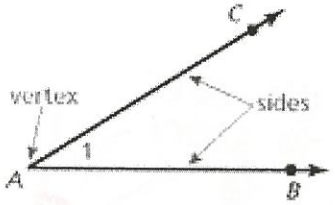
Measuring Angles

Lesson Objective IWBAT find measures of and classify different types of angles.

Naming Angles

Angle: An angle is a set of points consisting of 2 diff. rays that have the same endpoint called the vertex.

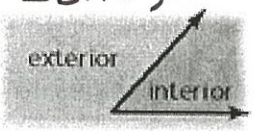
→ The rays are the sides of the angle.



Name: ① use vertex (∠A)

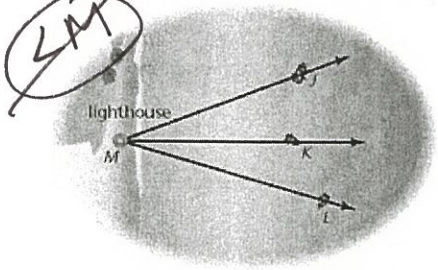
② use points on rays & vertex (∠CAB or ∠BAC)

③ use # inside the angle (∠1)



***If more than one angle has the save vertex, the name ∠(*vertex point*) cannot be used!!!

Example: 1. A lighthouse keeper measures the angles formed by the lighthouse at point M and 3 boats. Name 3 angles in the diagram.



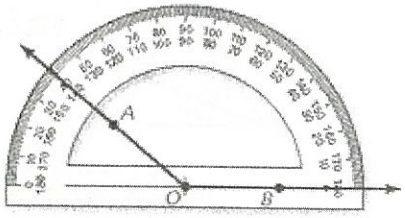
∠JMK (or ∠KMJ)

∠KML (or ∠LMK)

∠JML (or ∠LMJ)

Measuring Angles

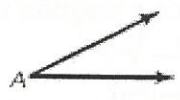
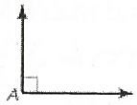
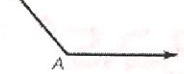
Protractor Postulate: The measure of ∠*AOB* (m∠AOB) is equal to the difference between the real numbers matched with $\overrightarrow{OA}$ and $\overrightarrow{OB}$.



m∠AOB = |40 − 180|

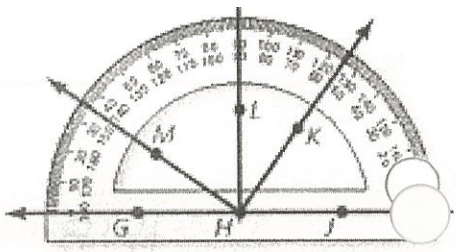
= |−140| → = 140°

Classifying Angles

Acute Angle	Right Angle	Obtuse Angle	Straight Angle
			
0° < angle < 90°	= 90°	90° < angle < 180°	= 180°

Example: 2. Find the measure of each angle. Then classify each angle.

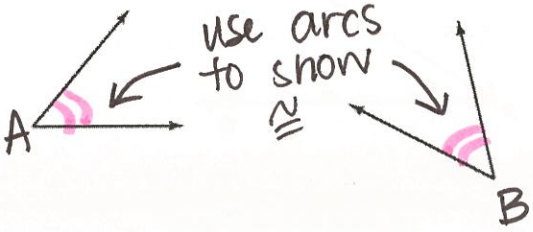
a. $\angle GHK$ b. $\angle JHL$ c. $\angle LHK$



Identifying Congruent Angles

Congruent Angles: Two angles are congruent when they have the same degree measure.

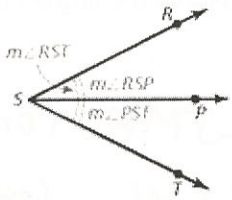
MEASURES of angles are EQUAL



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

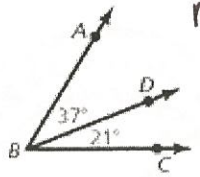
$\angle A \cong \angle B$ ~~$m\angle A \cong m\angle B$~~

Angle Addition Postulate

Words	Symbols
If P is in the inside of $\angle RST$, then the measure of $\angle RST$ is equal to the sum of the measures of $\angle RSP$ and $\angle PST$.	If P is in the inside of $\angle RST$, then  $m\angle RST = m\angle RSP + m\angle PST$

Example:

3. Find $m\angle ABC$.

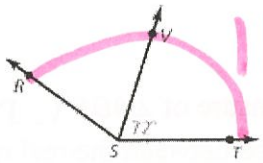


$m\angle ABC = m\angle ABD + m\angle DBC$

$m\angle ABC = 37° + 21°$

$= \boxed{58°}$

4. $m\angle RST = 114°$. Find $m\angle RSV$.

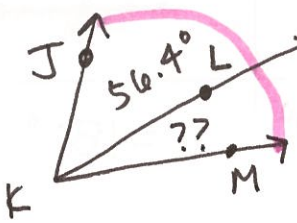


$m\angle RST = m\angle RSV + m\angle VST$

$114 = m\angle RSV + 72$

$\boxed{42° = m\angle RSV}$

5. L is in the interior of $\angle JKM$. Find $m\angle LKM$ if $m\angle JKL = 56.4°$ and $m\angle JKM = 82.5°$. Sketch a diagram first.



$m\angle JKM = m\angle JKL + m\angle LKM$

$82.5° = 56.4° + m\angle LKM$

$-56.4 \quad -56.4$

$\boxed{26.1° = m\angle LKM}$