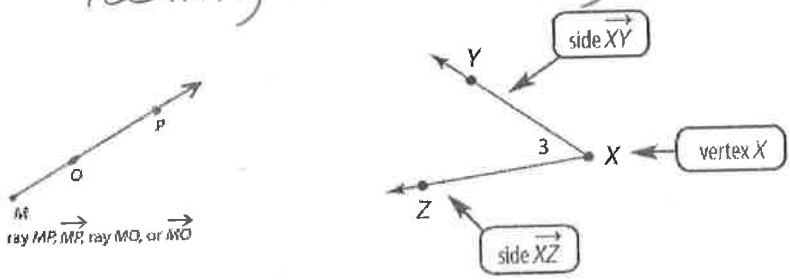
LESSON 1-4 Angle Measure

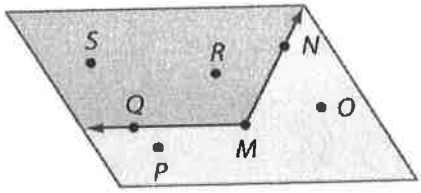
read pp. 36–40

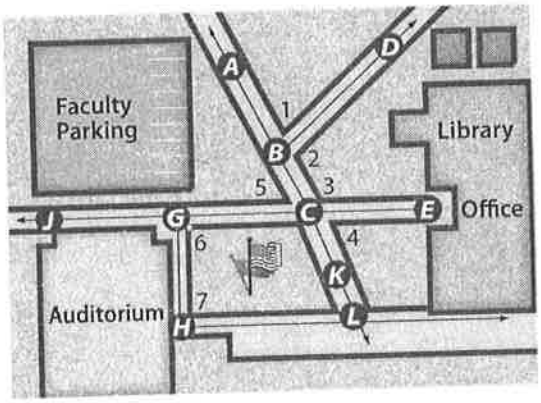
Target: I will be able to measure & classify angles, and identify and use congruent angles and the bisector of an angle



An angle divides a plane into three distinct parts.

- Points Q, M, and N lie on the angle.
- Points S and R lie in the **interior** of the angle.
- Points P and O lie in the **exterior** of the angle.





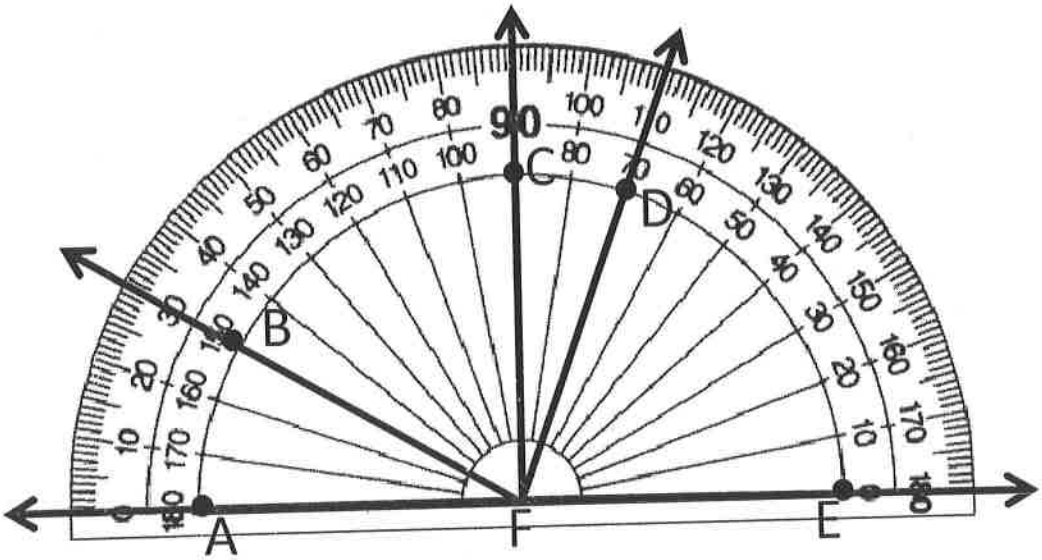
#'s 2-4,12-28:

1A. What is the vertex of ∠5? C

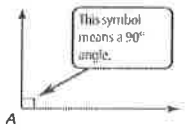
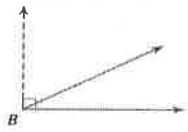
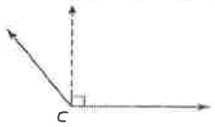
1C. Write another name for ∠ECL.
∠LCE, ∠KCE, ∠ECK

1B. Name the sides of ∠5. $\overrightarrow{CB}$ or $\overrightarrow{CA}$ and $\overrightarrow{CG}$ or $\overrightarrow{CJ}$

1D. Name a point in the exterior of ∠CLH.
E



KeyConcept Classify Angles

right angle	acute angle	obtuse angle
		
$m\angle A = 90$	$m\angle B < 90$	$180 > m\angle C > 90$

#'s6-8,30-34:

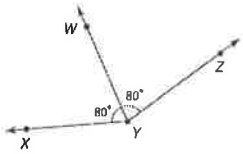
Classify the angle as right, acute, or obtuse. Then use a protractor to measure the angle to the nearest degree.

2A. ∠EFC
right
90°

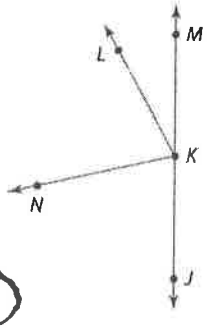
2B. ∠AFD
obtuse
110°

2C. ∠AFB
acute
30°

A ray that divides an angle into two congruent angles is called an **angle bisector**. If $\overrightarrow{YW}$ is the angle bisector of $\angle XYZ$, then point W lies in the interior of $\angle XYZ$ and $\angle XYW \cong \angle WYZ$.



#'s10,38-42:



ALGEBRA **In the figure, $\overrightarrow{KJ}$ and $\overrightarrow{KM}$ are opposite rays, and $\overrightarrow{KN}$ bisects $\angle JKL$.**

2A. m∠JKN = 5x – 4 and m∠MKL = x + 12, find m∠MKN.

m∠JKN = m∠NKL (angle bisector)
m∠JKN + m∠NKL + m∠MKL = 180° (sum of 3 ∠s on a straight line.)
5x-4 + 5x-4 + x+12 = 180 (substitute)
11x + 4 = 180 (combine like terms-simplify)
11x = 176 (subtraction)
x = 16 (Division)
m∠MKN = m∠NKL + m∠MKL (angle addition postulate)
m∠MKN = 5x-4 + x+12 (subst.)
m∠MKN = 6x + 8 (simp.)
m∠MKN = 6(16)+8 (subst.)
m∠MKN = 104° (simp.)