WARM-UP

p. 10

Self Test 1

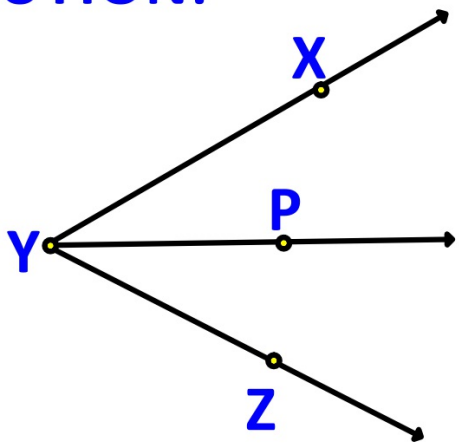
#1-7 all

SECTION 1.4: ANGLES

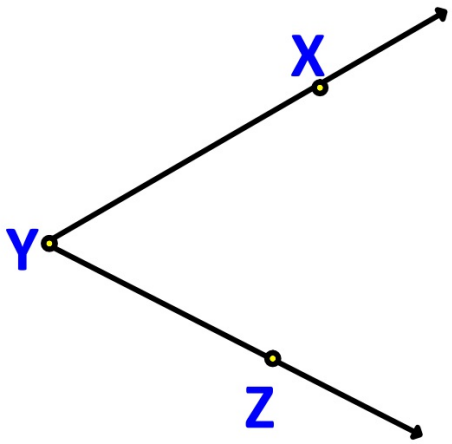
Standards:

1.0 - Students demonstrate understanding by identifying and giving examples of undefined terms,

CAUTION:



No $\measuredangle Y$

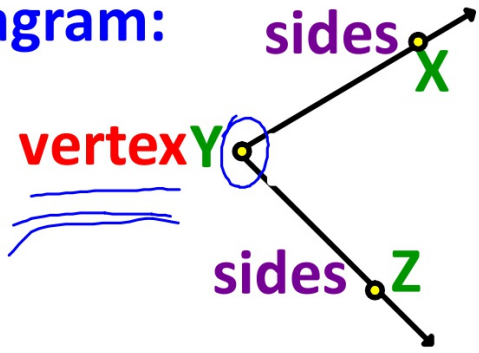


YES $\measuredangle Y$

ANGLE An angle ∠ is formed by 2 rays that have the same endpoint

- The rays are the sides
- The shared endpoint is the vertex

diagram:



Name:

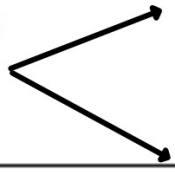
∠XYZ or ∠ZYX

∠Y

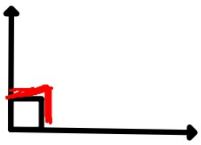
ANGLES ARE CLASSIFIED ACCORDING TO THEIR MEASURES:

ACUTE ANGLE: ★ **between 0° and 90°**

$0° < \text{angle} < 90°$

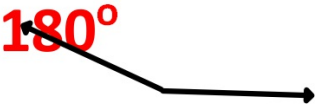


RIGHT ANGLE: ★ **exactly 90°**



OBTUSE ANGLE: ★ **between 90° and 180°**

$90° < \text{angle} < 180°$

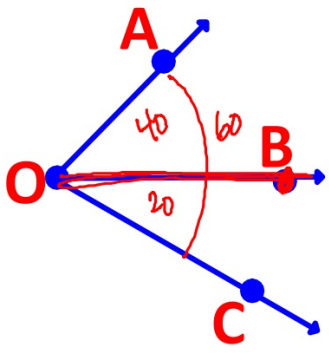


STRAIGHT ANGLE: ★ **exactly 180°**

ANGLE ADDITION POSTULATE

If point B lies in the interior of ∠AOC
then m∠AOB + m∠BOC = m∠AOC

part + part = whole



CONGRUENT ANGLES

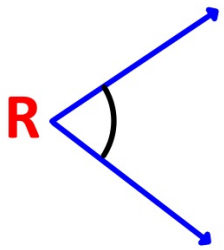
have equal measures

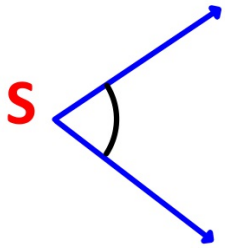
measure of $\angle R$

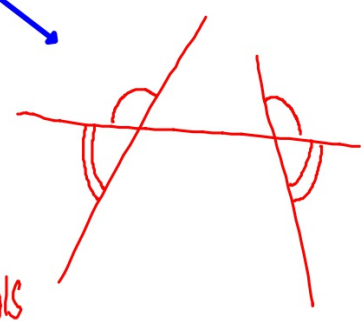
$m\measuredangle R = m\measuredangle S$

$\measuredangle R \cong \measuredangle S$

$\angle R \cong \angle S$







Find $m\angle X$ = number

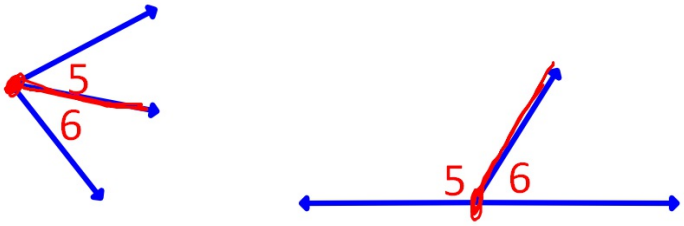
Complete $\angle X \cong$ letters/symbols

ADJACENT ANGLES

"next to"

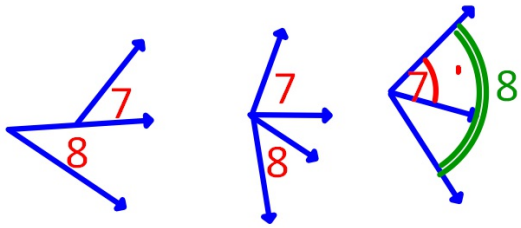
2 angles that have a common vertex and a common side BUT no common interior points.

EXAMPLES OF ADJ ANGLES



∠5 and ∠6 are adjacent angles

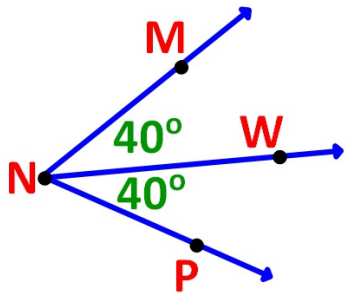
EXAMPLES OF NON ADJ ANGLES



∠7 and ∠8 are NOT adjacent angles

BISECTOR OF AN ANGLE

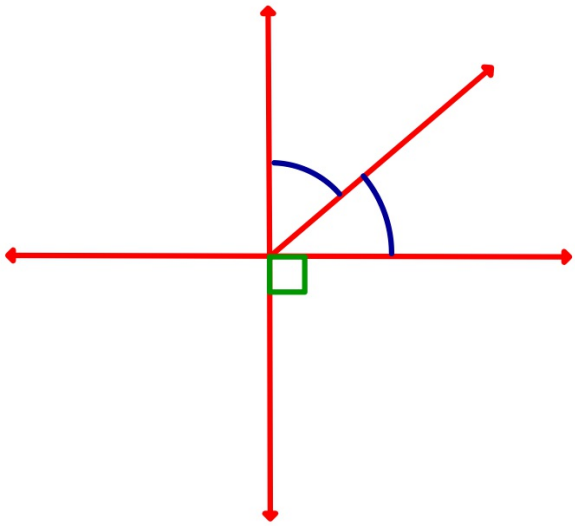
the ray that bisects an angle into two ≅, adjacent angles



$\overrightarrow{NW}$ bisects ∠MNP

$\angle MNW \overset{N}{\cong} \angle WNP$

NOTATION



congruent angle notation

congruent angle

right angle notation

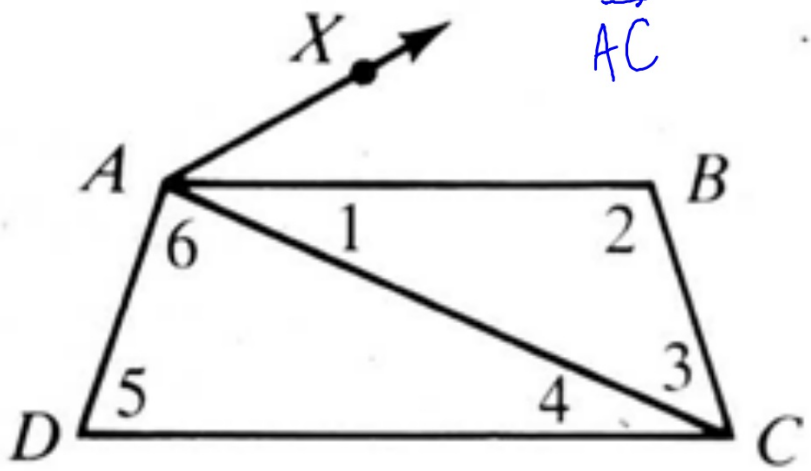
EXAMPLE 1

a) Name the vertex and sides of $\angle XAC$

pt. A

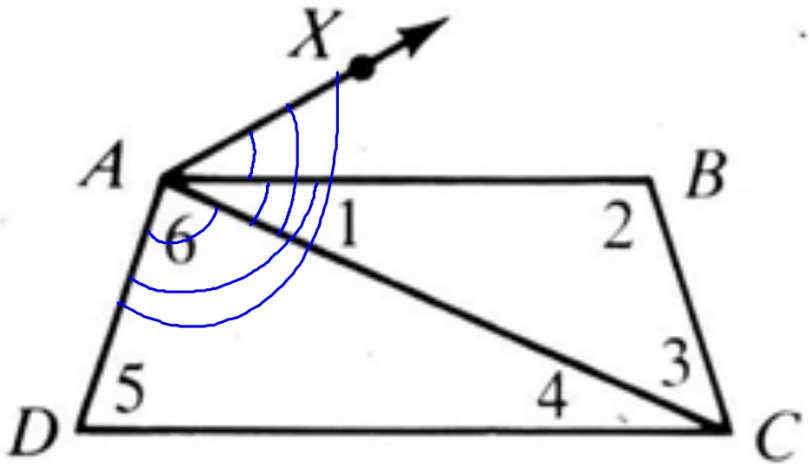
$\overrightarrow{AX}$

$\overrightarrow{AC}$



EXAMPLE 1

b) How many angles have A as the vertex? List them.



∠XAB
∠BAC
∠CAD
∠XAC
∠BAD
∠XAD

EXAMPLE 1

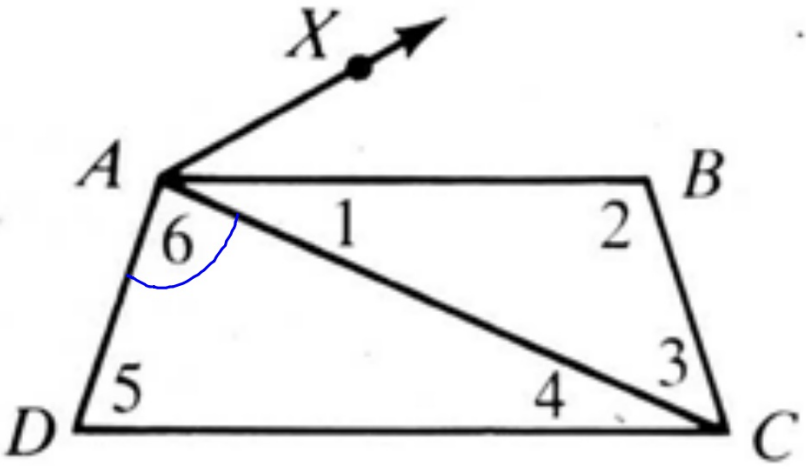
c) Give another name for

$\angle 6$ $\angle CAD$

$\angle ABC$ $\angle 2$

$\angle ADC$ $\angle 5$

$\angle 4$ $\angle ACD$

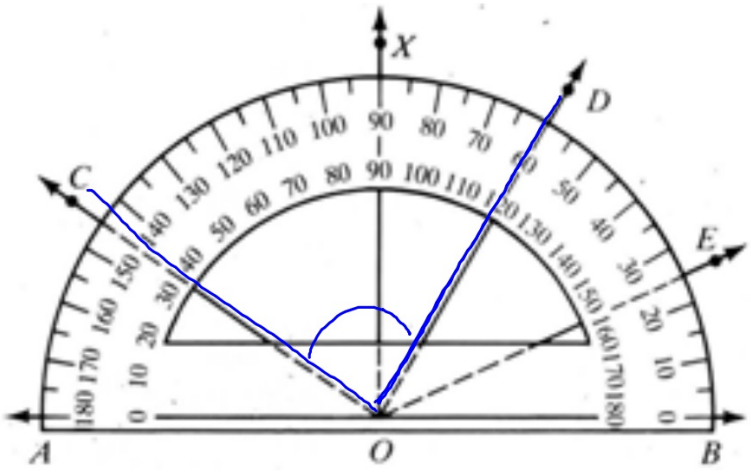


EXAMPLE 2

a) Find $m(\angle COD)$

145 - 60

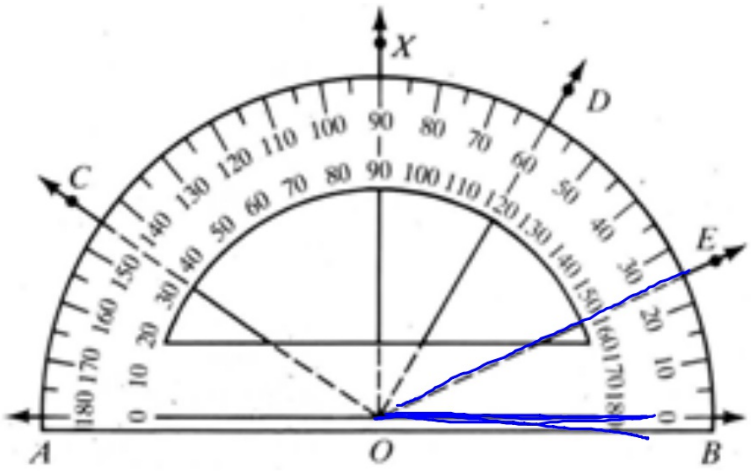
85



EXAMPLE 2

b) Find $m(\angle BOE)$

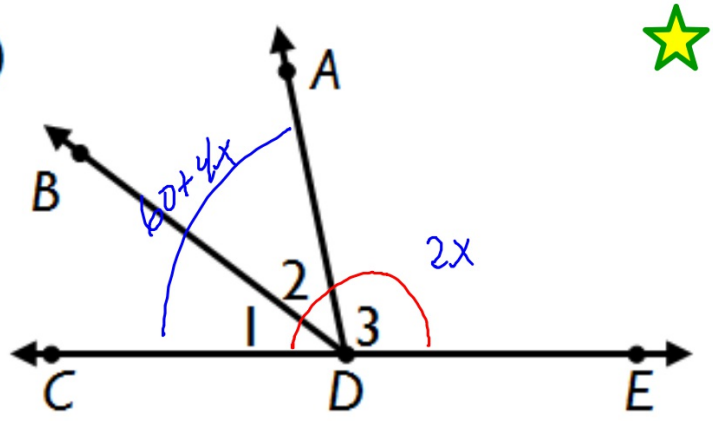
25



EXAMPLE 3

Given: $\overrightarrow{DB}$ bisects $\angle CDA$. Find the value of x.

a)



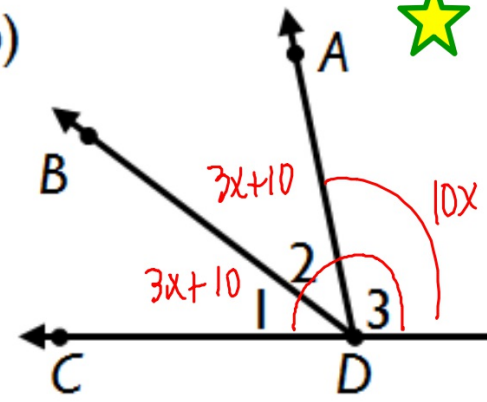
$m(\angle 3) = 2x$, $m(\angle ADC) = 60 + 4x$

$(60+4x)+(2x)=180$

EXAMPLE 3

Given: $\overrightarrow{DB}$ bisects $\angle CDA$. Find the value of x.

b)



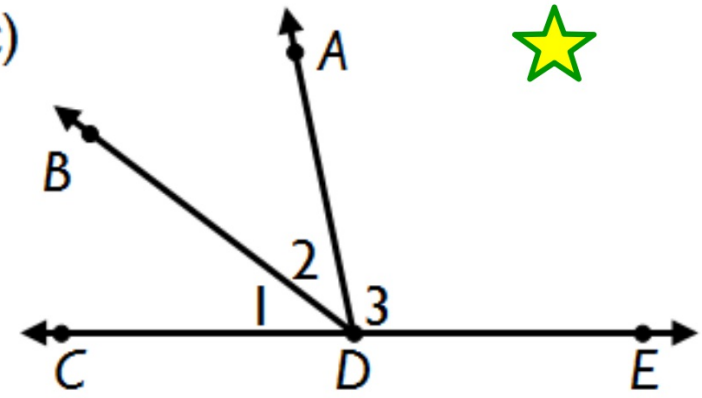
$3x+10+3x+10+10x=180$

$m(\angle ADE) = 10x$, $m(\angle 2) = 3x + 10$

EXAMPLE 3

Given: $\overrightarrow{DB}$ bisects $\angle CDA$. Find the value of x.

c)



$7x+19=5x+63$

$m(\angle 1) = 7x + 19$, $m(\angle 2) = 5x + 63$

HOMEWORK

Assignment #1.4

- Page 20 CE #17-22, 28-38
- Pages 21-22 WE #1-18, 27, 29-34