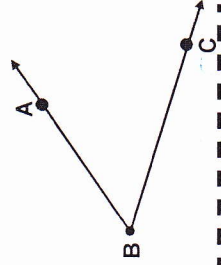


1.5 – ANGLES

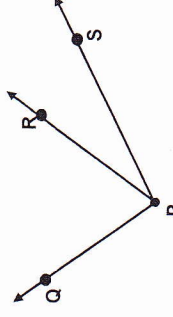
Objective: _____

ANGLE: *A figure formed by 2 rays, or sides, with a common endpoint called the vertex.*

EXAMPLE 1: Name each of the following.
 Sides: _____
 Vertex: _____
 Name: _____



EXAMPLE 2: How does the diagram in EXAMPLE 1 differ from the diagram in this example?



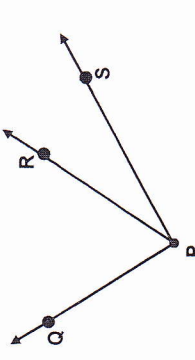
An angle separates a plane into three distinct parts:
 • _____
 • _____
 • _____

EXAMPLE 3: A) Name a point in the interior of $\angle QPS$ in EXAMPLE 2.

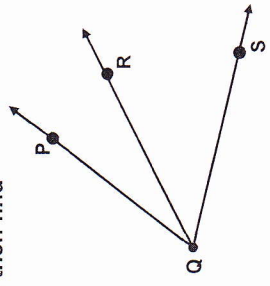
B) Name a point in the exterior of $\angle QPR$ in EXAMPLE 2.

The diagram in EXAMPLE 2 suggests the following postulate:

ANGLE ADDITION POSTULATE: If R is in the interior of $\angle QPS$, then $\angle QPR + m \angle RPS = m \angle QPS$. If $m \angle QPR + m \angle RPS = m \angle QPS$, then R is in the interior of $\angle QPS$.

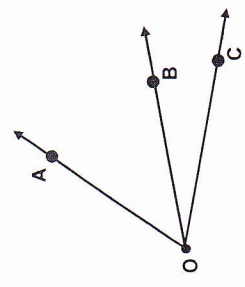


EXAMPLE 4: If $m \angle PQS = 77^\circ$ and $m \angle PQR = 32^\circ$, then find $m \angle RQS$.



EXAMPLE 5: If $m \angle AOC = 70^\circ$, $m \angle AOB = (x + 10)^\circ$, and $m \angle BOC = x^\circ$, find:

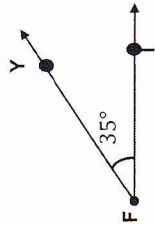
$x =$ _____
 $m \angle BOC =$ _____
 $m \angle AOB =$ _____



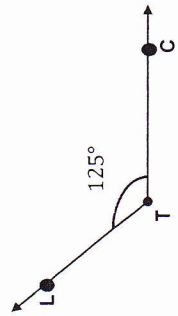
Angles can be classified by their measure in degrees.

- If an angle has a degree measure **less than 90°**, it is classified as an **acute angle**.
- If an angle has a degree measure **equal to 90°**, it is classified as a **right angle**.
- If an angle has a degree measure **greater than 90°**, it is classified as an **obtuse angle**.
- If an angle has a degree measure **equal to 180°**, it is classified as a **straight angle**.

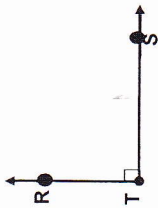
EXAMPLE 6: For each of the following angles A) Name it. B) Tell whether its measure is $< 90^\circ$, $> 90^\circ$, $= 90^\circ$, or $= 180^\circ$. C) Classify it.



NAME: _____ OR _____
 MEASURE: _____
 CLASSIFICATION: _____



NAME: _____ OR _____
 MEASURE: _____
 CLASSIFICATION: _____



NAME: _____ OR _____
 MEASURE: _____
 CLASSIFICATION: _____

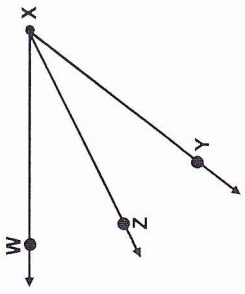


NAME: _____ OR _____
 MEASURE: _____
 CLASSIFICATION: _____

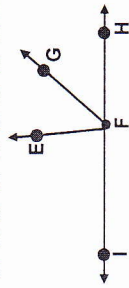
When angles have the same measure, they are said to be **congruent**.

ANGLE BISECTOR: **A ray that divides an angle into 2 congruent angles.**

EXAMPLE 7: If \overline{XZ} is an angle bisector of $\angle WXY$, name the two congruent angles that it forms.



EXAMPLE 8: \overline{FG} bisects $\angle EFH$. Find the value of x for each of the following.



EXAMPLE 8:
 $m\angle EFG = (5x - 10)^\circ$
 $m\angle GFH = (3x + 25)^\circ$

EXAMPLE 9:
 $m\angle GFH = (3x + 20)^\circ$
 $m\angle EFH = (4x + 80)^\circ$