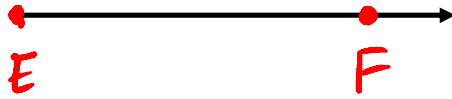


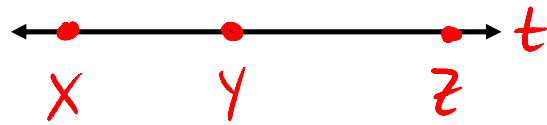
1.4 - Angle Measure

Measure Angles

▪ Ray

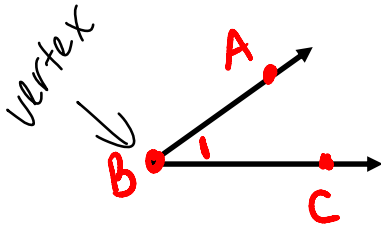
▪ Opposite rays



*Line t has 2 rays \overrightarrow{YX} and \overrightarrow{YZ} .

▪ Angle: 2 noncollinear rays

○ Symbols: $\angle ABC$, $\angle CBA$, $\angle B$, $\angle 1$



▪ An angle divides a plane into 3 distinct parts.

▪ What points ...

▪ Lie on the angle:

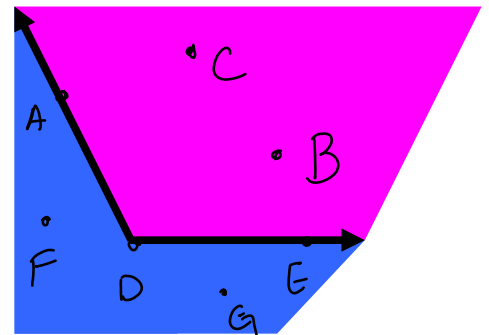
A, E, D

▪ Lie in the interior of the angle:

C, B

▪ Lie in the exterior of the angle:

F, G



1) Name all the angles that have R as its vertex.

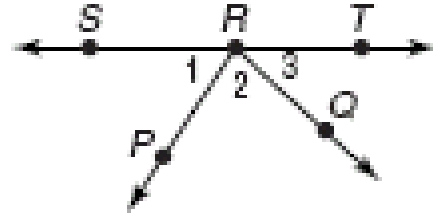
$\angle SRP, \angle 2, \angle 3, \angle SRT,$
 $\angle SRQ, \angle PRT$

2) Name the sides of $\angle 1$.

$\overrightarrow{RS}, \overrightarrow{RP}$

3.) What is another name for $\angle 1$?

$\angle SRP$



Measuring Angles

What is used to measure an angle?

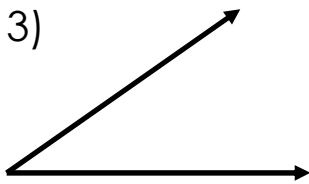
If angle PQR is 75 degrees, the correct notation would be:

$$m\angle PQR = 75$$

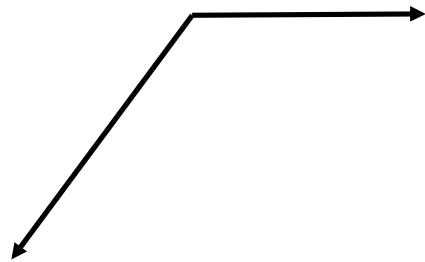
Remember: The letters represent sides and the angle. The letter in the middle represents the angle and the outside letters represents the sides.

- Label each angle as $\angle ABC$
- Measure the angles
- Classify the angles as acute, obtuse, or right and label them accordingly.

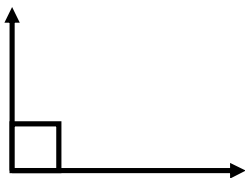
3)



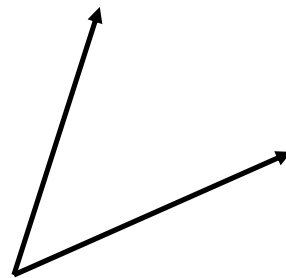
4)



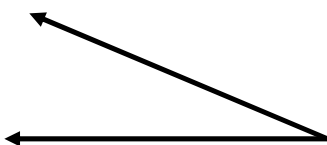
5)



6)



7)

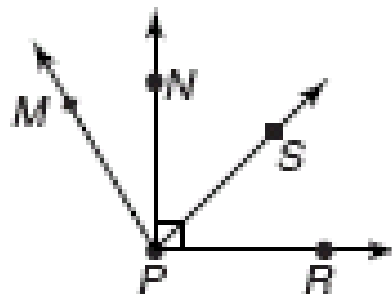


8)



Classify Angles

- Right Angle:
 $x = 90$
- Acute Angle:
 $0 < x < 90$
- Obtuse Angle:
 $90 < x < 180$



Your Homework Examples will look like the following:
Measure and classify each angle.

9) $\angle MPR$

10) $\angle RPN$

11) $\angle NPS$

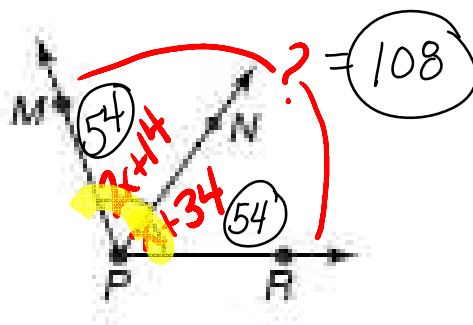
* Use your protractor on these.

Congruent Angles: Angles that have the same measure.

Cannot use protractor here!!!! Only use when worded like above

Ex: If $m\angle MPN = 2x + 14$ and $m\angle NPR = x + 34$, find x and $m\angle MPR$.

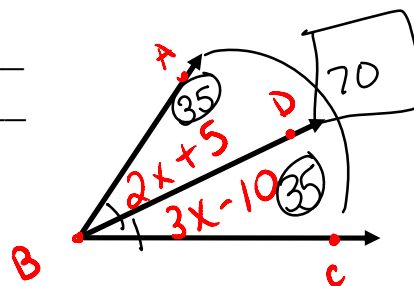
$$\begin{aligned} 2x + 14 &= x + 34 \\ -x &\quad -x \\ \hline x + 14 &= 34 \\ -14 &\quad -14 \\ \hline x &= 20 \end{aligned}$$



Angle Bisector: line or ray that cuts an \angle into 2 \cong parts

Find $m\angle ABC$ if \overrightarrow{BD} is an angle bisector.

$$\begin{aligned} 2x + 5 &= 3x - 10 \\ -2x &\quad -2x \\ \hline 5 &= x - 10 \\ +10 &\quad +10 \\ \hline 15 &= x \end{aligned}$$



Pg. 39 Copy an Angle, Pg. 40 Bisect an Angle