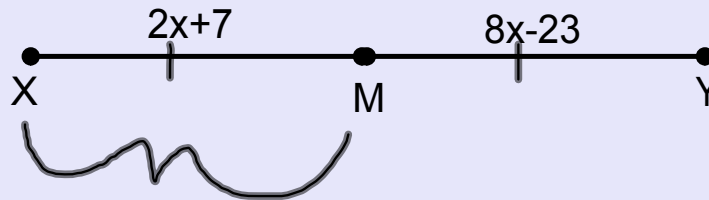


Bellwork
08/24/2011

1. Point M is the midpoint of \overline{XY} . Find XM.



$$\begin{aligned} 2x+7 &= 8x-23 \\ -2x+23 &-2x+23 \end{aligned}$$

$$\frac{6x}{6} = \frac{30}{6}$$

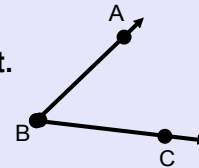
$$x=5$$

$$XM=17$$

Geometry
1.4 Measure and Classify Angles
Standard(s): 3,4

Vocabulary:

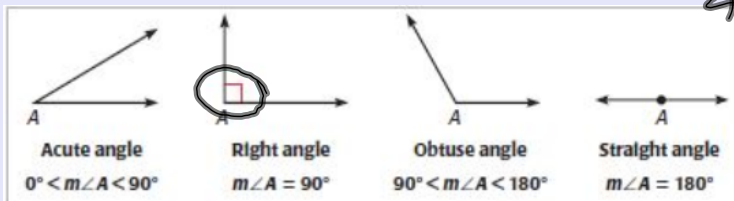
1. Angle: Two different rays with the same endpoint.



2. Sides of an Angle: The rays that create the angle.

$\sphericalangle ABC$
 $\sphericalangle CBA$

3. Vertex: The endpoint of the angle.



4. Congruent Angles: Two angles with the same measure.

POSTULATE *For Your Notebook*

POSTULATE 3 Protractor Postulate

Consider \overrightarrow{OB} and a point A on one side of \overrightarrow{OB} .
 The rays of the form \overrightarrow{OA} can be matched one to one with the real numbers from 0 to 180.

The measure of $\angle AOB$ is equal to the absolute value of the difference between the real numbers for \overrightarrow{OA} and \overrightarrow{OB} .

POSTULATE *For Your Notebook*

POSTULATE 4 Angle Addition Postulate

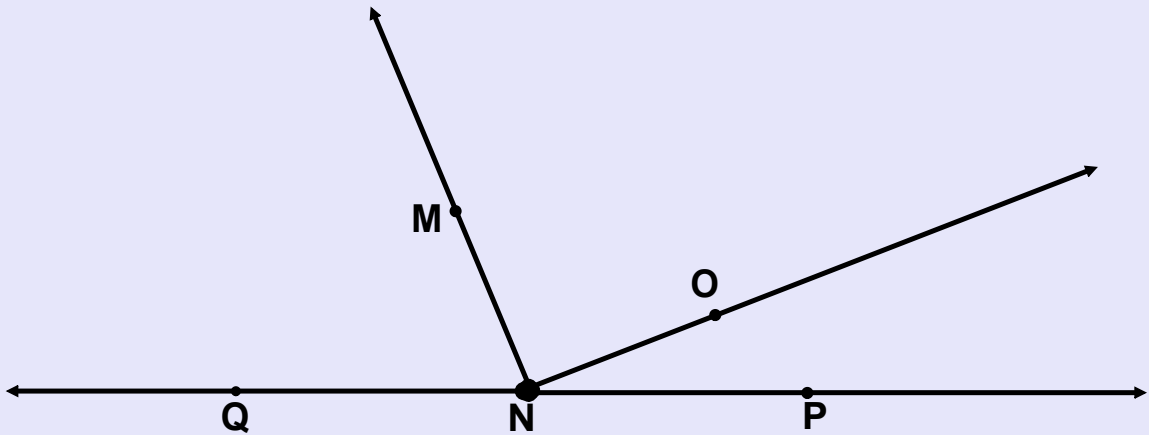
Words If P is in the interior of $\angle RST$, then the measure of $\angle RST$ is equal to the sum of the measures of $\angle RSP$ and $\angle PST$.

Symbols If P is in the interior of $\angle RST$, then $m\angle RST = m\angle RSP + m\angle PST$.

Full

Name and Classify Angles

Name the angles in the diagram. Tell whether the angle *appears* to be acute, obtuse, right or straight.



$\angle MNO$

right

$\angle ONP$ acute

$\angle QNP$

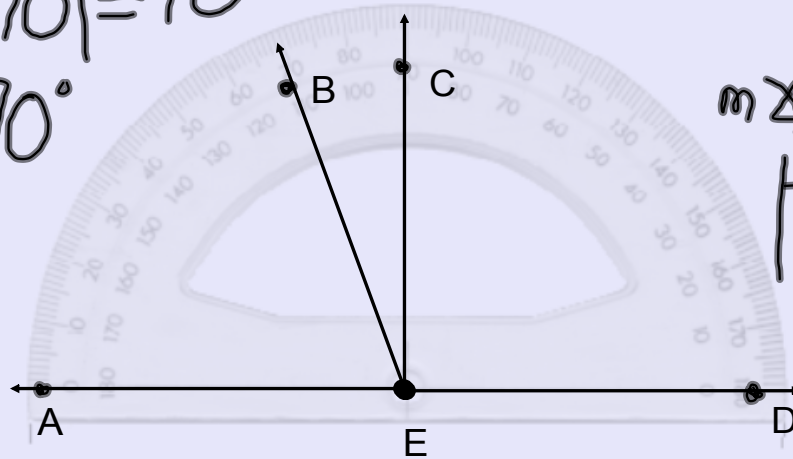
straight

$\angle MNP$ obtuse

Measure and Classify Angles

Use the diagram to find the measure of each angle and classify the angle.

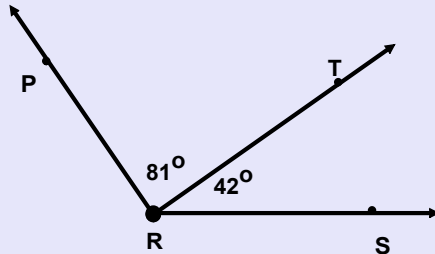
$$|0 - 70| = 70^\circ$$
$$m\angle AEB = 70^\circ$$



$$m\angle BEC = 20^\circ$$
$$|70 - 90| = 20$$

Find Angle Measures

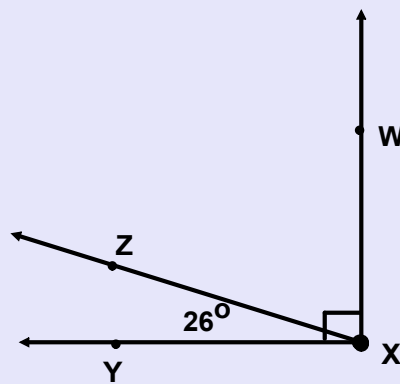
Find the $m \angle PRS$.



$$81 + 42 = 123$$

$$m \angle PRS = 123^\circ$$

Find the $m \angle WXZ$.



$$90 - 26 =$$

$$m \angle WXZ = 64^\circ$$

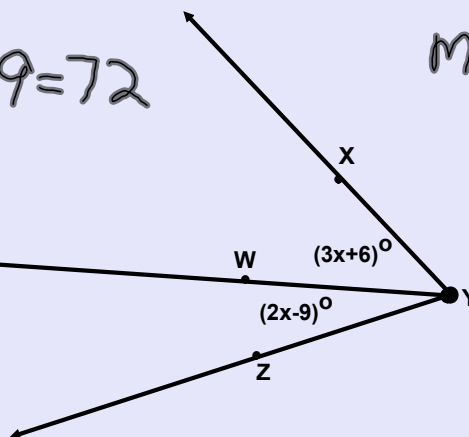
If $m \angle XYZ = 72^\circ$, find $m \angle XYW$ and $m \angle ZYW$.

$$\underline{3x+6} + \underline{2x-9} = 72$$

$$5x - 3 = 72$$

$$5x = 75$$

$$x = 15$$



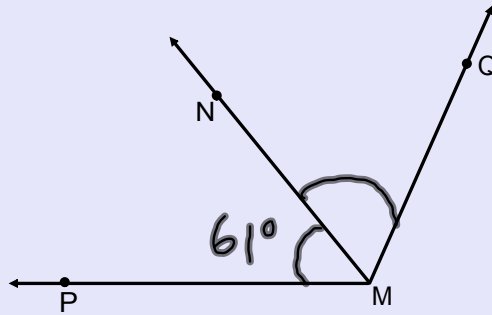
$$m \angle XYW = 51^\circ$$

$$m \angle ZYW = 21^\circ$$

*How can you check if your answers are correct?

Double an Angle Measure

In the diagram, \overrightarrow{MN} bisects $\angle PMQ$, and $m \angle PMQ = 122^\circ$. Find $m \angle PMN$.

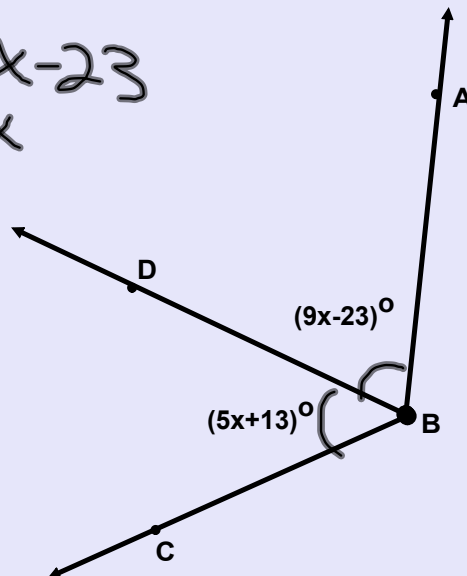


$$\frac{122}{2}$$

$$m \angle PMN = 61^\circ$$

In ~~each~~^{this} diagram, \overrightarrow{BD} bisects $\angle ABC$. Find $m \angle ABC$.

$$\begin{aligned} 5x + 13 &= 9x - 23 \\ -5x \quad -5x & \\ 4x &= 36 \\ x &= 9 \end{aligned}$$



$$\begin{aligned} 5(9) + 13 \\ = 58 \end{aligned}$$

$$m \angle ABC = 116^\circ$$

Find Missing Angle Measures

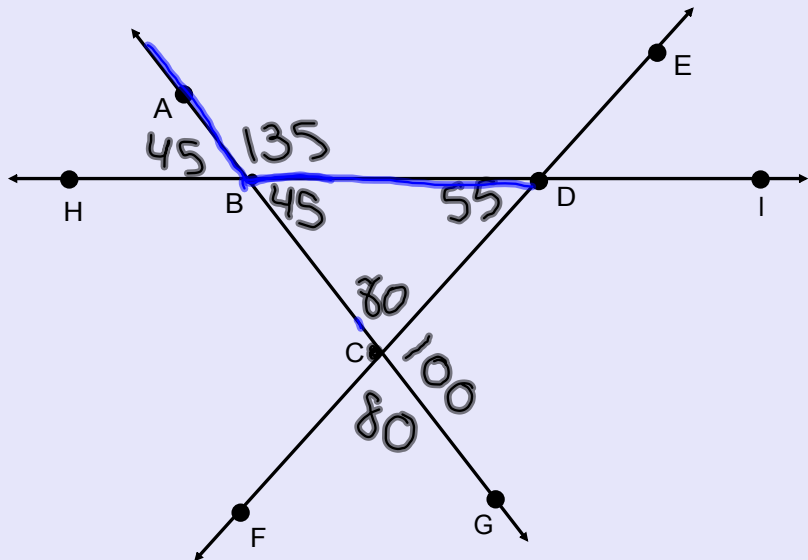
In the diagram, $m \angle BCD = 80^\circ$, $m \angle BDC = 55^\circ$, $m \angle DBC = 45^\circ$.
Find the indicated angle measures.

$$m \angle DCG = 100^\circ$$

$$m \angle GCF = 80^\circ$$

$$m \angle ABD = 135^\circ$$

$$m \angle HBA = 45^\circ$$



Homework Assignment

Worksheet 1.4B

