

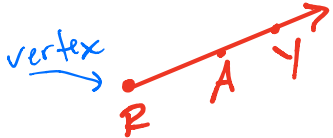
Tools For Geometry – Angles Measures

Notes Section 1.3

Name _____

Ray: a segment that is extended indefinitely in one direction

Vertex: the endpoint of a ray

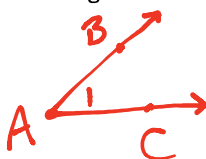


ray RA
ray RY
 \overrightarrow{RA}
 \overrightarrow{RY}

Angle: a figure that consists of two rays with a common endpoint

Sides: the two rays of an angle

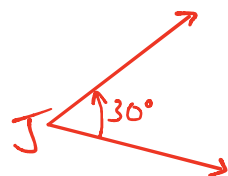
\overrightarrow{AB} and \overrightarrow{AC}
are sides



$\angle BAC$
 $\angle CAB$
 $\angle A$
 $\angle I$

Interior and exterior of an angle:

Measure of an angle: the number of degrees in an angle



measure $\angle J = 30$
 $m\angle J = 30^\circ$

Opposite rays: two collinear rays that extend in opposite directions

Straight angle: the figure formed by two opposite rays



\overrightarrow{BA} and \overrightarrow{BC}
are opposite rays

$\angle ABC$ is a straight angle

$m\angle ABC = 180^\circ$

Acute Angle: an angle whose measure is less than 90 and greater than zero.

$0^\circ < \text{acute } \angle < 90^\circ$

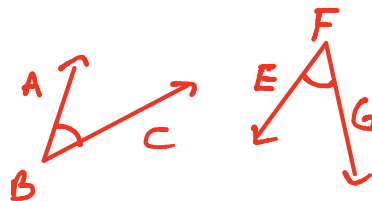
Obtuse Angle: an angle whose measure is greater than 90 and less than 180.

$90^\circ < \text{obtuse } \angle < 180^\circ$

Right Angle: an angle whose measure is 90.

$m\angle_{\text{Right}} = 90^\circ$

Congruent Angles – $\angle CAT \cong \angle DOG$ iff $m\angle CAT = m\angle DOG$

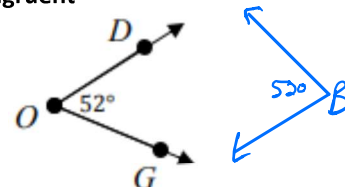


$\angle B \cong \angle F$
 $m\angle B = m\angle F$

Equal vs Congruent

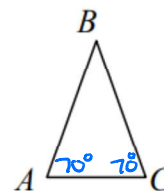
$m\angle DOG = 52^\circ$

$\angle DOG \cong \angle B$



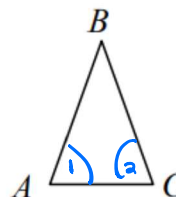
$m\angle A = 70^\circ$

$m\angle BCA = 70^\circ$

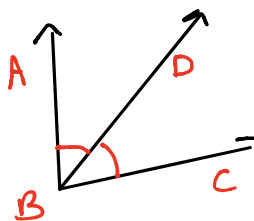


$\angle 1 \cong \angle 2$

$\triangle ABC$ is isosceles



Angle Bisector: a line, ray, or segment that separates an angle into two congruent angles.



\overrightarrow{BD} bisects $\angle ABC$

$\therefore \angle ABD \cong \angle DBC$

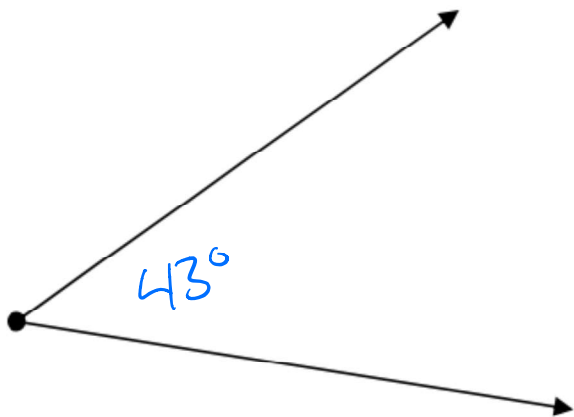
Therefore

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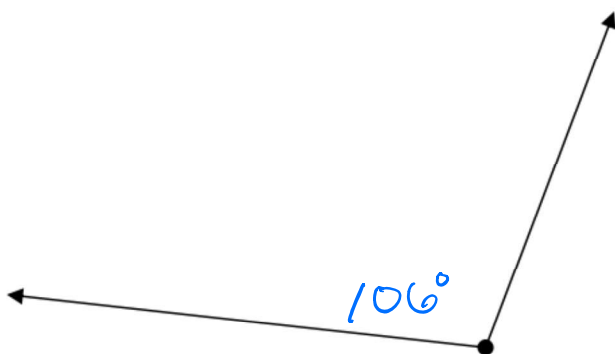
Notes Section 1.3

Name _____

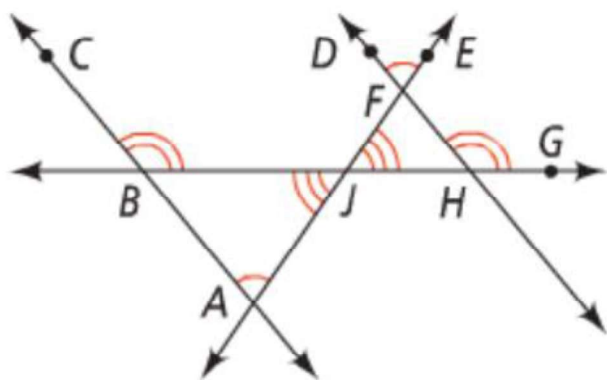
1. Estimate, measure and classify each angle using a protractor



- 2.



Use the diagram to answer each question.



3. $\angle CBJ \cong \angle DHG$

4. $\angle FJH \cong \angle BJA$

5. If $m\angle EFD = 75$, then $m\angle JAB = 75^\circ$

6. If $m\angle GHF = 130$, then $m\angle JBC = 130^\circ$

- 7.

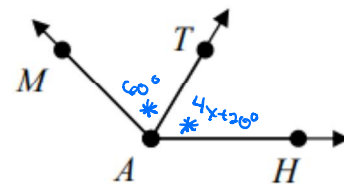
Given

\overline{AT} is the angle bisector of $\angle MAH$

$m\angle MAT = 60^\circ$

$m\angle TAH = 4x + 20$

Find x



$m\angle MAT = m\angle TAH$

$60^\circ = 4x + 20^\circ$

$40 = 4x$

$10 = x$

- 8.

Given

$\angle LOV \cong \angle VOE$

$m\angle LOV = 7x - 14$

$m\angle VOE = 3x + 12$

Find x

$m\angle LOV = m\angle VOE$

$7x - 14 = 3x + 12$

$4x - 14 = 12$

$4x = 26$

$x = \frac{26}{4}$

$x = 6.5$

Find $m\angle LOV$

$m\angle LOV = 7x - 14$

$= 7(6.5) - 14$

$= 45.5 - 14$

$m\angle LOV = 31.5$

