Geometry Note-Taking Guide
SECTION 1.7 – Angles and Congruence

Diagram:

An _____ (**Symbol:** ____)
consists of two rays that have the same endpoint.

The rays are the _____ of the angle.

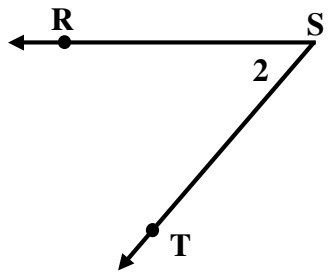
The shared endpoint of the rays is the

_____ of the angle.

An angle can be named using points on its sides or by a number.

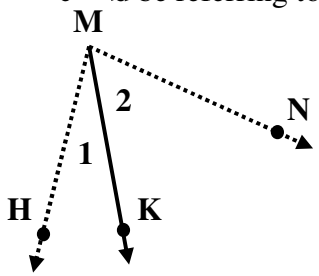
Ex 1:

a) State all the different names for the angle below.



b) State all the different names for the dotted angle.

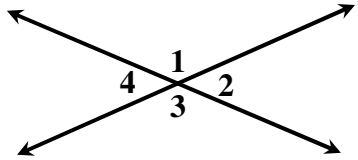
Note: ∠M is NOT a name of the dotted angle because there are three angles that ∠M could be referring to.



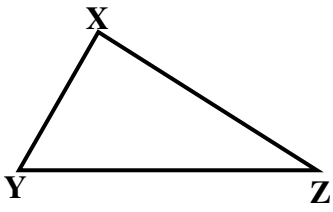
Ex 2:

Shade the angle that is indicated.

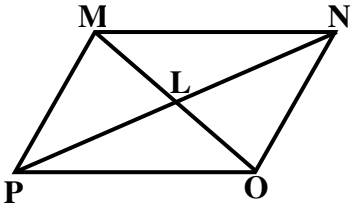
a) ∠1



b) ∠XYZ



c) ∠LNO



The measure of an angle is written in units called _____. (Symbol: ___)

An angle can have a measure between ____ and _____ degrees.

The notation m∠A = 82° means "The measure of angle A is 82 degrees."

Ex 3:

Construct an angle with the information given.

a) m∠A = 30°

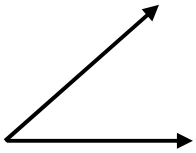
b) m∠ABC = 125°

c) m∠DEF = 90°

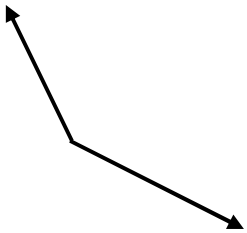
d) m∠XYZ = 180°

Ex 4:
Come up with an approximation for the given angle.

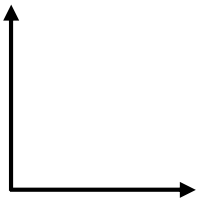
a)



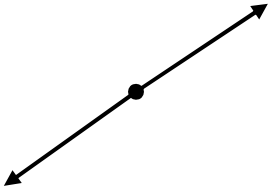
b)



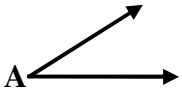
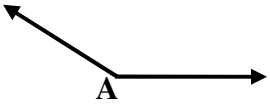
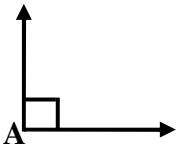
c)



d)



There are ____ types of _____ an angle can be given based on its measure.

Acute Angle	**Obtuse Angle**	**Right Angle**	**Straight Angle**
			
m∠A < 90°	**m∠A > 90°**	**m∠A = 90°**	**m∠A = 180°**

Ex 5:
Classify each angle.

a) m∠D = 180°

b) m∠C = 90°

c) m∠A = 45°

d) m∠B = 120°

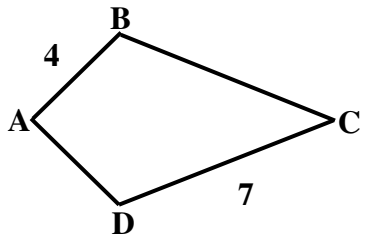
In Geometry, the word _____ (Symbol: ____) is often used, which means to have the same size and shape or to be overlapping. In other words, it roughly means to be _____ (Symbol: =).

_____ are used on a diagram to show segments are congruent.

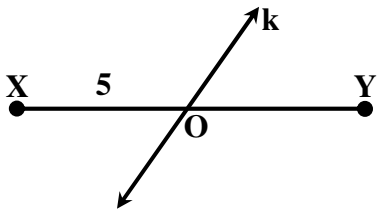
_____ are used to show angles are congruent.

Ex 6:
Label the diagram using the given information.

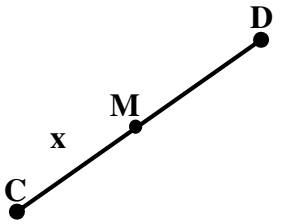
a) $\overline{AB} \cong \overline{AD}$ and $\overline{BC} \cong \overline{DC}$



b) Line k bisects $\overline{XY}$.



c) M is the midpoint of $\overline{CD}$.



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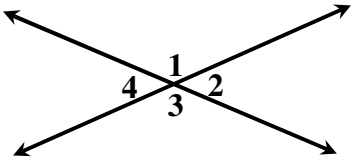
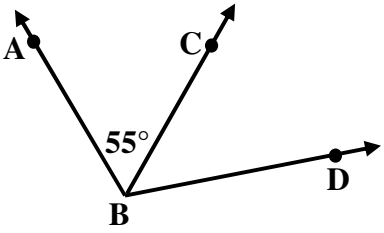
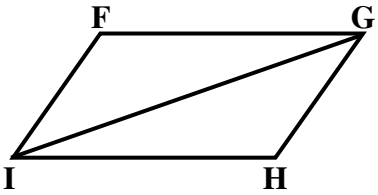
d) $\angle 1 \cong \angle 3$ and $\angle 2 \cong \angle 4$



e) $\overrightarrow{BC}$ bisects $\angle ABD$.

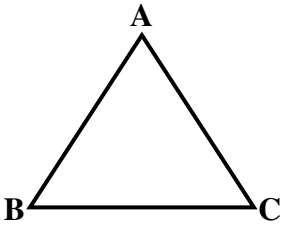


f) $\angle FGI \cong \angle HIG$

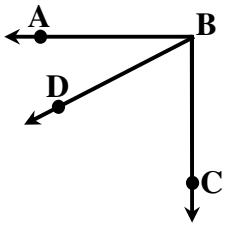


Sometimes ___ arc can be used to show the measure of an angle that contains angles inside it.

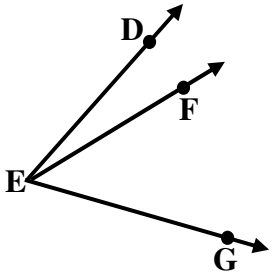
g) $\overline{AB} \cong \overline{BC} \cong \overline{AC}$
$\angle A \cong \angle B \cong \angle C$



h) $\angle ABC$ is a right angle

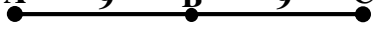


i) $m\angle DEG = 84°$

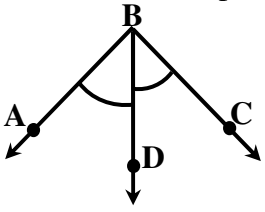


Ex 7:
Write a congruence statement based on the information depicted in the diagram.

a)



b)



c)