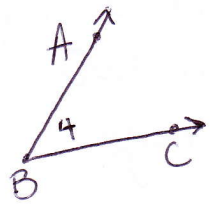
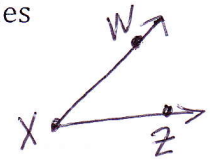
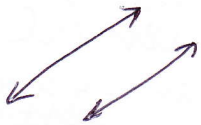
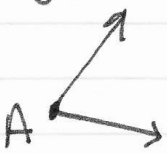
STATION 1:

Word: angle (include sides, vertex)	Book Page: 24
Definition: An angle consists of 2 different rays (sides) with the same endpoint (vertex).	Facts/Characteristics  Names: ∠B or ∠ABC or ∠CBA or ∠4
Examples  vertex X sides $\overline{XW}$ and $\overline{XZ}$	Non-Examples 

TOPIC: Naming Angles

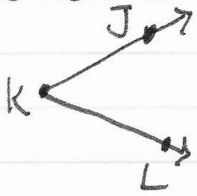
Since an angle is made of a vertex and two rays, we can name the angle by

(1) Just its vertex
ex. ∠A



(2) or by its vertex and the points on the rays making sure the vertex letter is in the middle

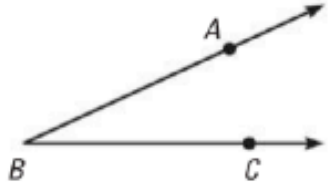
ex. ∠JKL
or ∠LKJ



Remember when we are measuring angles, we use the notation $m\angle A$ or $m\angle JKL$.

NAMING ANGLES AND ANGLE PARTS **In Exercises 3–5, write three names for the angle shown. Then name the vertex and sides of the angle.**

3.



TOPIC: Types of Angles

We already know that in Geometry angle measures go from 0 to 180 degrees.

Here is a chart that shows the breakdown.

Measure of Angle	Type of Angle
Between 0 and 90°	→ Acute angle
Exactly 90°	→ Right angle
Between 90° and 180°	→ Obtuse angle
Exactly 180°	→ Straight angle

QUESTIONS: Naming Angles / Types of Angles

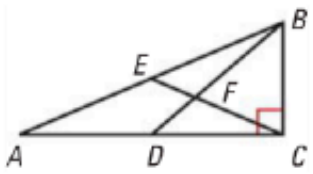
Pg 28-29 #3, 7-10, 15-16

CLASSIFYING ANGLES **Classify the angle with the given measure as *acute*, *obtuse*, *right*, or *straight*.**

7. $m\angle W = 180°$ **8.** $m\angle X = 30°$ **9.** $m\angle Y = 90°$ **10.** $m\angle Z = 95°$

NAMING AND CLASSIFYING **Give another name for the angle in the diagram below. Tell whether the angle appears to be *acute*, *obtuse*, *right*, or *straight*.**

15. $\angle ACB$ **16.** $\angle ABC$



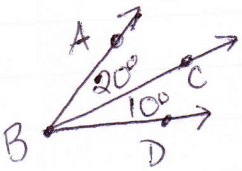
STATION 2:

Word: adjacent angle	Book Page: 35
Definition: Adjacent angles are 2 angles that share a common vertex and side, but have no common interior points	Facts/Characteristics Hint: Adjacent angles are neighbors and must share a side
Examples  ∠1 and ∠2 are adjacent	Non-Examples 

TOPIC: Adjacent angles + Angle addition

Angle addition allows you to add 2 angles together (like segment addition lets you add segments)

We can remember it by "part + part = whole"

An example is 

∠ABC and ∠CBD make ∠ABD

so $m\angle ABC + m\angle CBD = m\angle ABD$

$20 + 10 = 30$

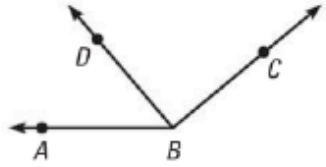
$\boxed{m\angle ABD = 30^\circ}$

QUESTIONS:

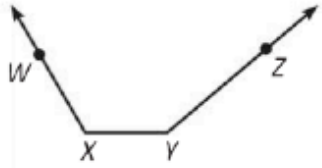
Pg 38 #3-5 Pg 29 # 22-24

IDENTIFYING ANGLES **Tell whether the indicated angles are adjacent.**

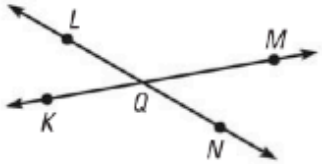
3. $\angle ABD$ and $\angle DBC$



4. $\angle WXY$ and $\angle XYZ$

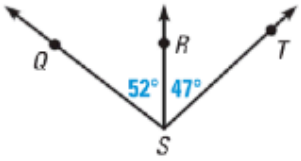


5. $\angle LQM$ and $\angle NQM$

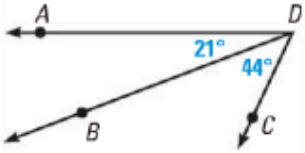


ANGLE ADDITION POSTULATE **Find the indicated angle measure.**

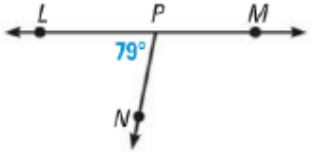
22. $m\angle QST =$?



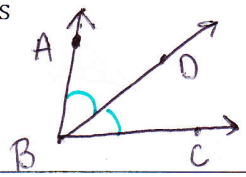
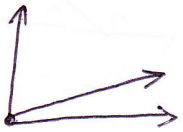
23. $m\angle ADC =$?



24. $m\angle NPM =$?



STATION 3:

Word: angle bisector	Book Page: 28
Definition: A ray that divides an angle into 2 congruent angles.	Facts/Characteristics: congruent means measures are equal and are marked by arcs
Examples:  $\overrightarrow{BD}$ is an angle bisector	Non-Examples: 

TOPIC: Angle Bisector

An angle bisector is a ray that divides an angle into two angles that are congruent.

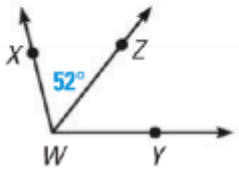
ex. $\overrightarrow{YW}$ bisects $\angle XYZ$ so $\angle XYW \cong \angle WYZ$
and $m\angle XYW = m\angle WYZ$

QUESTIONS: Angle Bisector

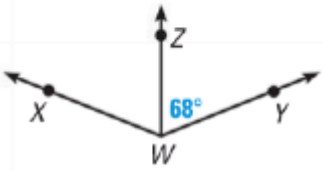
Pg 30 #29-31

ANGLE BISECTORS Given that $\overrightarrow{WZ}$ bisects $\angle XWY$, find the two angle measures not given in the diagram.

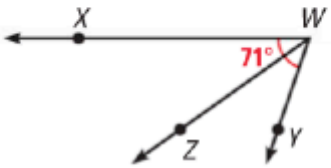
29.



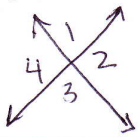
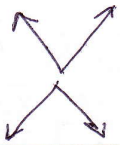
30.

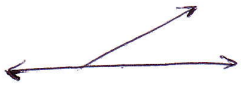
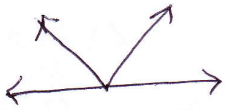


31.



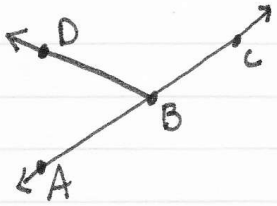
STATION 4:

Word: vertical angle	Book Page: 37
Definition: Two angles are vertical angles if their sides form two pairs of opposite rays.	Facts/Characteristics: Whenever angles make this shape, we will say in a proof "by definition"
Examples:  ∠1 and ∠3 are vertical ∠2 and ∠4 are vertical	Non-Examples: 

Word: linear pair	Book Page: 37
Definition: Two adjacent angles are a linear pair if their noncommon sides are opposite rays.	Facts/Characteristics: Whenever angles make this shape, we will say in a proof "by definition"
Examples: 	Non-Examples: 

TOPIC: Angle Pairs

Be careful of the vocabulary:



∠ABC is a straight angle

∠ABD and ∠DBC are adjacent

∠ABC and ∠DBC are a linear pair

$m\angle ABD + m\angle DBC = m\angle ABC$

∠ABD and ∠DBC are supplementary

$m\angle ABD + m\angle DBC = 180°$

QUESTIONS:

Pg 39 #21, 23, 25, 27, 28

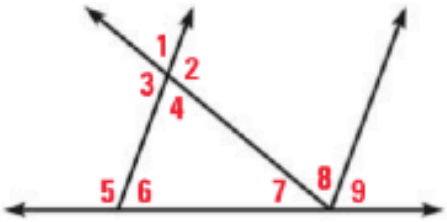
IDENTIFYING ANGLE PAIRS **Use the diagram below. Tell whether the angles are *vertical angles*, a *linear pair*, or *neither*.**

21. $\angle 1$ and $\angle 2$

23. $\angle 2$ and $\angle 3$

25. $\angle 5$ and $\angle 6$

27. $\angle 5$ and $\angle 9$



28. **ALGEBRA** Two angles form a linear pair. The measure of one angle is 4 times the measure of the other angle. Find the measure of each angle.

STATION 5:

Word: complementary | supplementary	Book Page: 35

Definition:
Complementary angles have a sum of their measures equal 90°

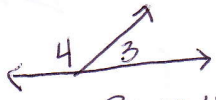
Supplementary is 180°

Facts/Characteristics

Hint
C comes before S in the alphabet and 90 before 180 so
C → 90 S → 180

Examples

m∠1 + m∠2 = 90

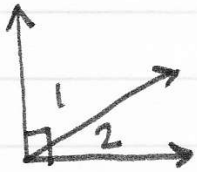


m∠3 + m∠4 = 180

Non-Examples

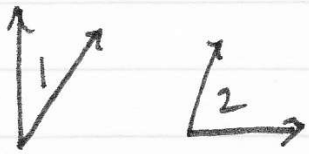
TOPIC: Complementary Angles

Angles that sum to 90°. They can be



adjacent

or



non adjacent

QUESTIONS:

Pg 39 # 8-11 Pg 40 # 39

COMPLEMENTARY ANGLES $\angle 1$ and $\angle 2$ are complementary angles. Given the measure of $\angle 1$, find $m\angle 2$.

8. $m\angle 1 = 43°$ 9. $m\angle 1 = 21°$ 10. $m\angle 1 = 89°$ 11. $m\angle 1 = 5°$

FINDING ANGLES $\angle A$ and $\angle B$ are complementary. Find $m\angle A$ and $m\angle B$.

39. $m\angle A = (3x + 2)°$
$m\angle B = (x - 4)°$

STATION 6:

Word: complementary | supplementary	Book Page: 35

Definition:

Complementary angles have a sum of their measures equal 90°

Supplementary is 180°

Facts/Characteristics

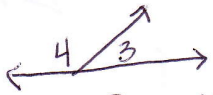
Hint

C comes before S in the alphabet and 90 before 180 so

C → 90 S → 180

Examples

m∠1 + m∠2 = 90

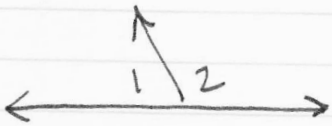


m∠3 + m∠4 = 180

Non-Examples

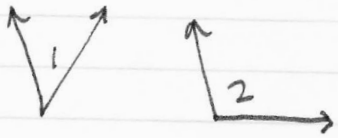
TOPIC: Supplementary Angles

Angles that sum to 180°. They can be



adjacent

OR



non adjacent

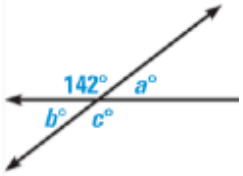
QUESTIONS:

Pg 30 #33, 35 Pg 39 #12-15 Pg 40 #42

FINDING ANGLE MEASURES Find the indicated angle measure.

33. $a°$

35. $c°$



SUPPLEMENTARY ANGLES ∠1 and ∠2 are supplementary angles. Given the measure of ∠1, find $m∠2$.

12. $m∠1 = 60°$ **13.** $m∠1 = 155°$ **14.** $m∠1 = 130°$ **15.** $m∠1 = 27°$

FINDING ANGLES ∠A and ∠B are supplementary. Find $m∠A$ and $m∠B$.

42. $m∠A = (8x + 100)°$
$m∠B = (2x + 50)°$

Assignment (Please add to your agenda)

Pg 28 #3, 7-10, 15-16, 22-24, 29-31, 33, 35

Pg. 38 #3-5, 8-15, 21, 23, 25, 27, 28, 39, 42