Geometry Ch 1 Calendar			
Date	**Day**	**Lesson**	**Homework Assignment**
8/14/23 8/15/23	Monday (A) Tuesday (B)	Syllabus, Class Norms & Vocab Journal	Signed Syllabus $3 Lab Fee paid to bookkeeper Finish setting up Vocab Journal
8/16/23 8/17/23	Wednesday (A) Thursday (B)	Algebra Rev: Topic 1	Algebra Rev: Topic 1 Worksheet
8/18/23 8/21/23	Friday (A) Monday (B)	Algebra Rev: Topic 2	Algebra Rev: Topic 2 Worksheet
8/22/23 8/23/23	Tuesday (A) Wednesday (B)	**1.1 Angles** • Acute, Obtuse, Right, Straight • Angle Addition Postulate	1.1 Worksheet
8/24/23 8/25/23	Thursday (A) Friday (B)	**1.2 Angle Pair Relationships** • Adjacent Angles • Vertical Angles • Linear Pair	1.2 Worksheet
8/28/23 8/29/23	Monday (A) Tuesday (B)	**1.3 Angle Pair Relationships** • Complementary angles • Supplementary angles • Angle Bisector	1.3 Worksheet
8/30/23 8/31/23	Wednesday (A) Thursday (B)	• Ch 1 Practice Test	Ch 1 Review Worksheet
9/01/23 9/05/23	Friday (A) Tuesday (B)	**Ch 1 Test**	None 😊

When is homework Due?

The next class meeting!

- This means school closures and natural disasters do NOT cancel homework due dates. It just means you are so lucky because you have an extra day to do it. The assignment will still be due the next time we meet.

HW Hints:

- All documents are available at www.washoeschools.net/DRHSmath
- Absent for a lesson? Check out our class YouTube channel: DRHS Geometry **https://www.youtube.com/channel/UCh9fLvgw9metmQuIb6vQ5Zw**
- Show all work and draw the diagrams for each problem.
- Students who complete every assignment this semester will get a 2% bonus.
- For extra practice, visit www.khanacademy.org
- Check out www.mathguy.us for extra help.

Topic 1 Notes: Solving Equations

Steps for solving equations:

Distributive Property:

Combining Like Terms:

Solving Equations with Variables on Both Sides:

For #1 – 3: Solve each equation for the variable.

1) $5x + 8 = 73$ 2) $4x + 20 - 7x + 42 = 90$ 3) $6(5y - 4) = 23$

You try! For #4-6: Solve each equation for the variable.

4) $13 = -2(5 - 11a)$ 5) $23 - 4x = 51$ 6) $2b + 4 + 5b - 11 = 30$

For #7 – 9: Solve each equation.

7) $6x + 8 = 4x - 24$

8) $-3(4d - 2) = 7d + 3$

9) $5 + 4(8 - 3y) = 5(2y + 1)$

You try! For #10-12: Solve each equation.

10) $2(8x - 10) = 23 + 16x$

11) $7(3c - 4) = 2 - 4(5 + 6c)$

12) $6w + 40 - 2w = 5w - 1$

Topic 2 Notes: Simplifying Radicals, Naming Shapes, & Plotting Points

Simplifying a radical:

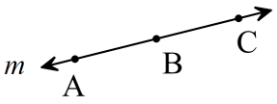
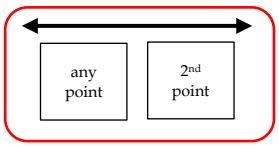
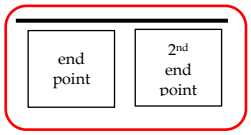
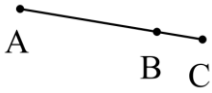
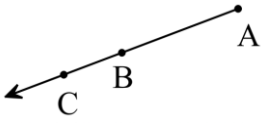
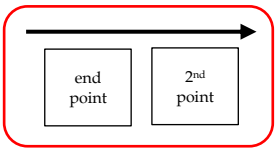
For #1–3: Simplify each radical expression (no decimal answers.)

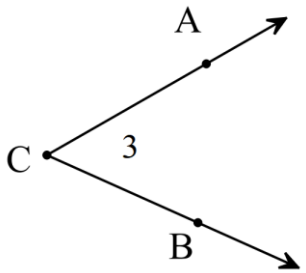
1) $\sqrt{24}$ 2) $-3\sqrt{50}$ 3) $\sqrt{192}$

You try! For #4-6: Simplify each radical expression (no decimal answers).

4) $2\sqrt{12}$ 5) $\sqrt{54}$ 6) $5\sqrt{60}$

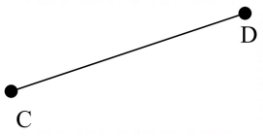
Naming Shapes

	Definition	Naming Convention
Points	A point is an undefined term. It is a _____in space. *Note:* points do not have any size.	Points are named by using a capital letter. • A • B
Lines	A line is an undefined term. Lines are _____ and go to infinity in _____ directions.	Lines are named by…  • 2 capital letters with a double arrow  • one italicized lower-case letter with the word "line" *line* ____
Line Segments	A line segment is a _____ of a line, with two _____ _____.	Line Segments are named by using the two endpoints *in any order*, with a bar symbol.  
Rays	A ray is part of a line, with _____ endpoint, and extending to infinity in one direction.	Rays are named by using the endpoint (first), followed by any other point (second). Draw an arrow on top of the two endpoints that is pointing right.  

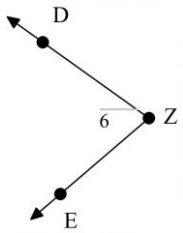
Angles	An angle is two rays with a common endpoint, called the _____. 	To name an angle: • Use the ∠ symbol with a number. ∠ # • Use the ∠ symbol with the vertex. ∠vertex point • Use the ∠ symbol with 3 points, listing the vertex as the 2nd point. ∠ [Ray pt] [vertex] [other ray pt]

For #7–9: Name each shape in as many ways as possible.

7) the segment shown below (2 ways)

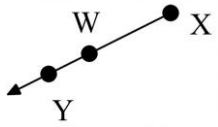


8) the angle shown below (4 ways)

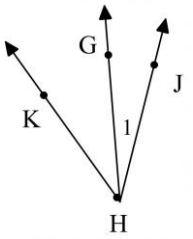


9) the line shown below (3 ways)

10) the ray shown below (2 ways)

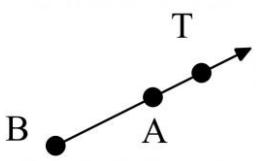


11) ∠1 as shown to the right (2 ways)



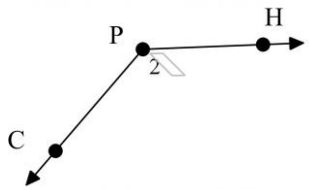
You try! For #12–16: Name each shape in as many ways as possible.

12) the ray shown below (2 ways)

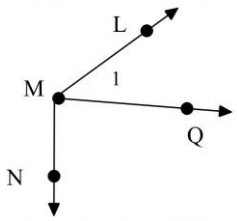


13) the line shown below (3 ways)

14) the angle shown below (4 ways)

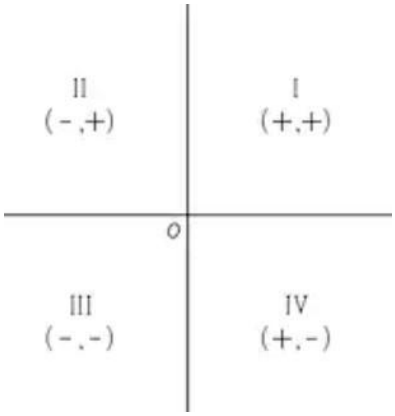


15) ∠1 as shown below (2 ways)



16) the segment shown below (2 ways)

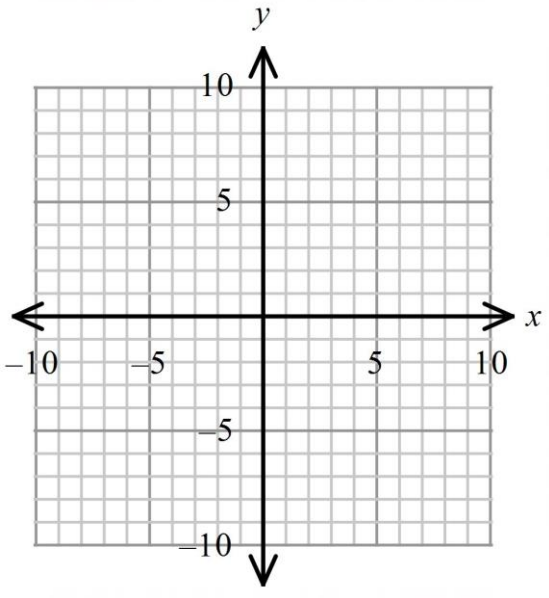
Review of Plotting Points and Quadrants



For #15-22: Use the graph below. Plot each point, and LABEL each one with the problem number.

15) $(-2,7)$ 16) $(3,-6)$ 17) $(5,-3)$ 18) $(-2,-5)$

19) $(4,0)$ 20) $(0,-4)$ 21) $(-4,0)$ 22) $(0,4)$



For #23–26: Identify which quadrant each point is in.

23) the point from #15 24) the point from #18

25) the point from #17 26) the point form #16

1.1 Notes: Angles

Objectives:

- **Students will classify angles and use them to solve problems.**
- **Students will use Angle Addition to find angle measurements.**

Exploration: Use the link below to explore angles of different measurements. Make sure you have chosen "one" on the drop-down menu.

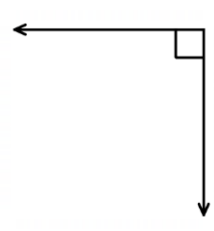
- Link: https://www.visnos.com/demos/basic-angles

- Click rays and drag them to form angles of different sizes. Make a sketch below for angles of each size.
  - 30 degrees
  - 140 degrees
  - 90 degrees
  - 180 degrees

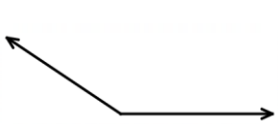
Classifying Angles

Acute Angle	If an angle is an **acute** angle, then its measure is ***between*** _____ and _____ degrees.	
Obtuse Angle	If an angle is an **obtuse** angle, then its measure is ***between*** _____ and _____ degrees.	
Right Angle	If an angle is a **right** angle, then its measure is ***exactly*** _____ degrees.	
Straight Angle	If an angle is a **straight** angle, then its measure is ***exactly*** _____ degrees.	

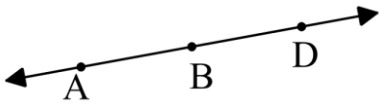
For #1-4: Classify each angle as acute, obtuse, right, or straight.

1) 

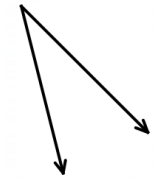
A) acute B) obtuse
C) straight D) right

2) 

A) obtuse B) straight
C) right D) acute

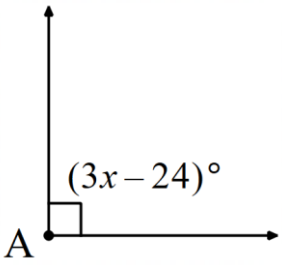
3) 

A) right B) obtuse
C) straight D) acute

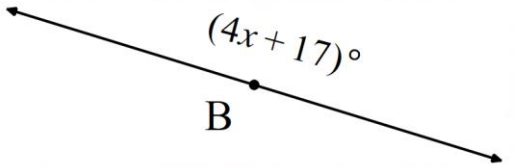
4) 

A) acute B) straight
C) obtuse D) right

5) $m\angle A = 3x - 24$, and $\angle A$ is a right angle. Find the value of x.



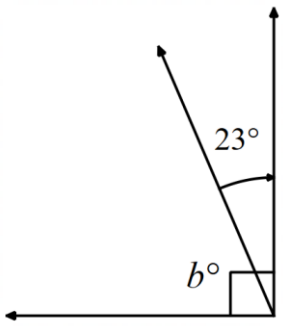
You try! **6)** $\angle B$ is a straight angle. Find x.



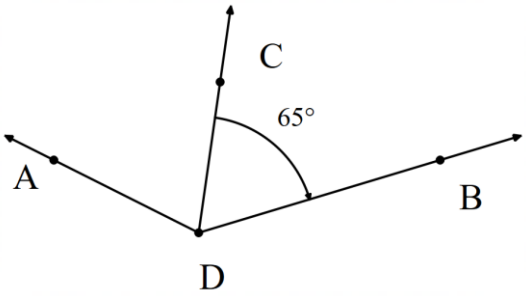
Angle Addition:

For #7–8: Find the value of the missing angle for each diagram.

7) Find the value of b.

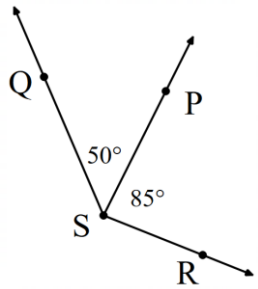


8) Find the $m\angle ADB$ if $m\angle ADC = 48$.

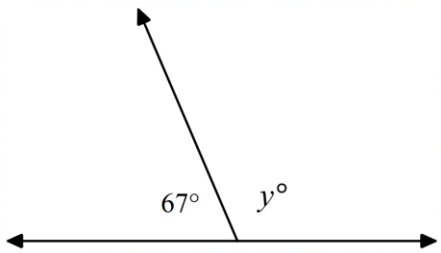


You Try! For #9–10: Find the value of the missing angle for each diagram.

9) Find the $m\angle QSR$.



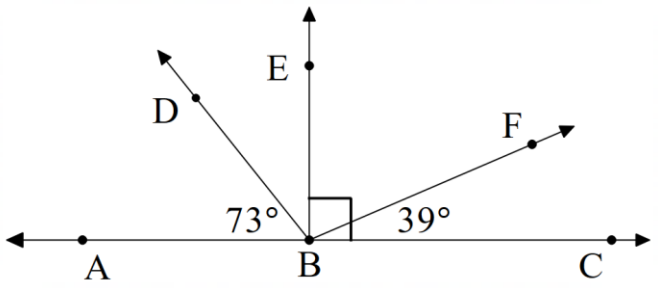
10) Find y.



11) Find the measure of each angle.

a. $\angle EBF$ b. $\angle EBA$

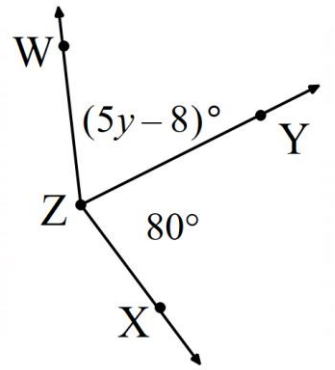
c. $\angle DBE$ d. $\angle DBC$



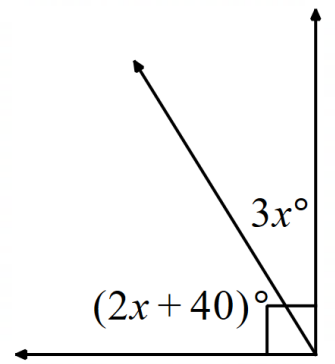
e. $\angle ABF$ f. $\angle DBF$

For #12-13: Find the value of the variable in each problem.

12) $m\angle WZX = 110°$



You try! 13)



1.2 Notes: Angle Pair Relationships

Objectives:

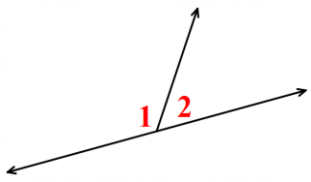
- **Students will identify angle pair relationships and use them to solve problems.**
  - **Adjacent Angles**
  - **Vertical Angles**
  - **Linear Pairs**

Adjacent Angles

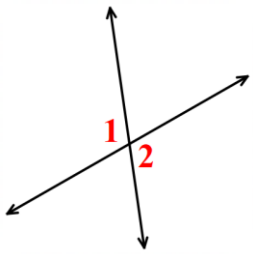
Definition of Adjacent Angles	Two angles are **adjacent** if they share a common ray and vertex.	

1) For which diagrams below are angles 1 and 2 adjacent angles?

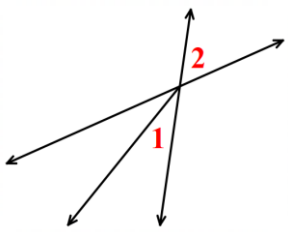
a.



b.



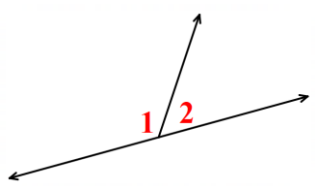
c.

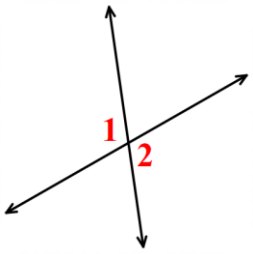


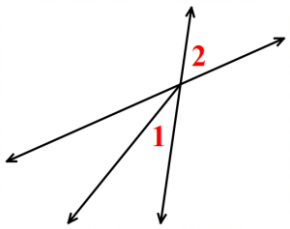
Vertical Angles and Linear Pairs

Definition of Vertical Angles	Two angles are **vertical** if they are non-adjacent angles formed by two intersecting lines. *Note:* Their sides form opposite rays.	
Definition of Linear Pair	Two adjacent angles form a **linear pair** if their non-common sides form a straight angle.	

2) Determine if the following pair of angles are vertical angles, linear pairs, or neither.

a. 

b. 

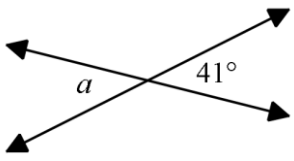
c. 

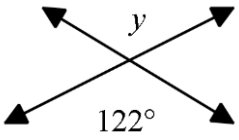
Exploration #1: Use this link to explore vertical angles' relationship.

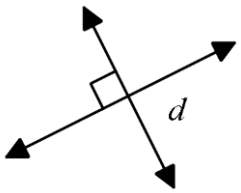
- Link: https://www.geogebra.org/m/SGhM48n5
- Slide the rays into different positions and slide the shaded region into different positions.
- What do you think is true for any pair of vertical angles? (This is called a **conjecture**.)

Congruent Angles	If **two angles are congruent**, then they have the _____ _____. Congruent symbol:	
Vertical Angle Theorem	If two angles form **vertical angles**, then the two angles are _____.	

3) Find the variable for each diagram below.

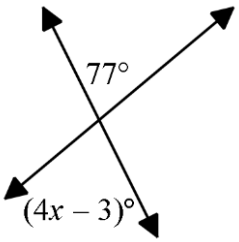
A) 

You Try! B) 

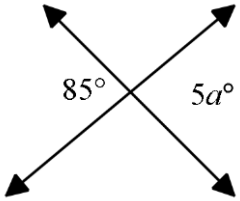
You Try! C) 

4) Find the variable for each diagram below.

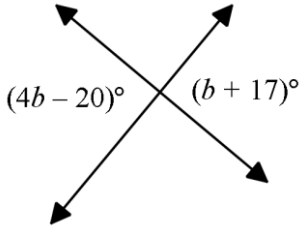
A)



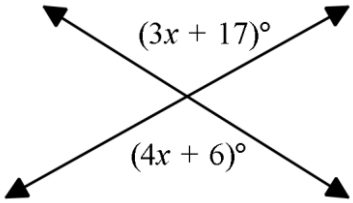
B)



You Try! C)



You Try! D)



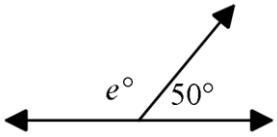
Exploration #2: Use this link to explore the relationship with linear pairs.

- Link: https://www.geogebra.org/m/txA6R64k
- Slide the rays into different positions and note the measurements of the angles formed.
- What do you think is true for any linear pair? **This is called a conjecture.**

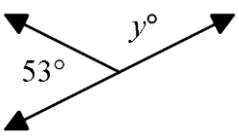
Linear Pair Theorem	If two angles form a **linear pair**, then the angles have a sum of _____.	

5) Find the variable for each diagram below.

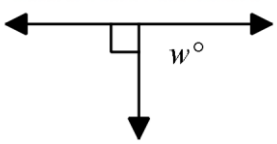
A)



You Try! B)

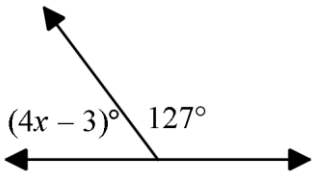


You Try! C)

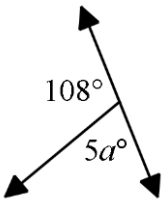


6) Find the variable for each diagram below.

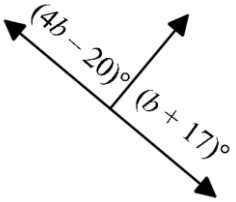
A)



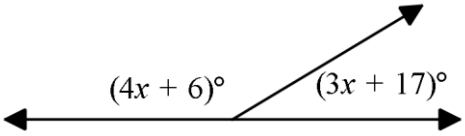
You Try! B)



C)

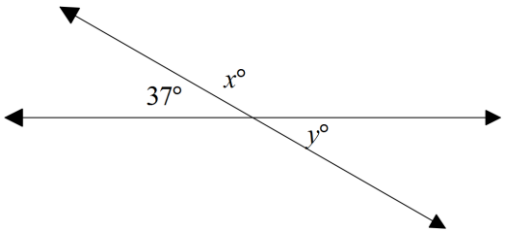


You Try! D)

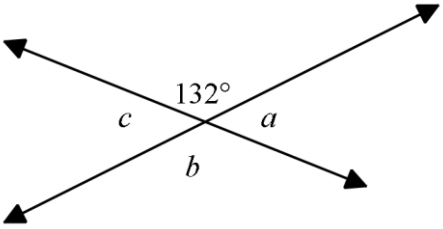


7) Find the measure of each variable in the diagrams below.

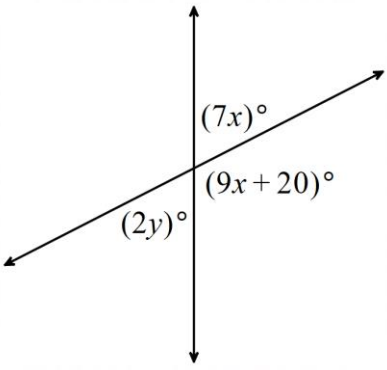
A)



B)



C) Hint: Find *x* first!



1.3 Notes: More Angle Pair Relationships

Objectives:

- **Students will identify angle pair relationships and use them to solve problems.**
  - **Complementary Angles**
  - **Supplementary Angles**
  - **Bisected Angles**

Exploration #1: Use the link below to explore complementary angles. Make sure you have chosen "**complementary**" on the drop-down menu.

- Link: https://www.visnos.com/demos/basic-angles
- Click on the rays and drag them to different positions.
  - Pay attention to the measures of the angles in the diagrams.
- Make a **conjecture** about **complementary angles:**

Complementary Angles

Complementary Angles	If two angles are **complementary angles**, then they have a sum of _____. *Note:* Complementary angles do not have to be adjacent to each other.	
The Complement of an Angle	The **complement of an angle** is the degree measure that adds up to _____ with the given angle measurement.	

1) Which pairs of angles below are complementary angles? Select all that apply.

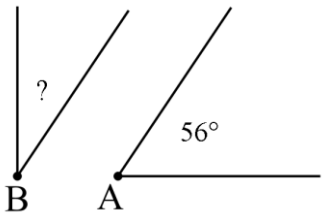
A) 42° and 48° B) 20° and 160° C) 10° and 80

D) 90° and 90° E) 45° and 45°

2) Find the complement of each angle below, if possible. Remember, angle measures *must* be positive!

A) 30° B) 71° C) 100°

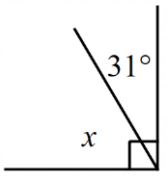
3) $\angle A$ is complementary to $\angle B$. If $m\angle A = 56°$, then find $m\angle B$.



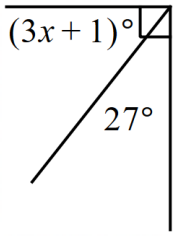
You Try! 4) $\angle D$ complementary to $\angle E$. If $m\angle D = (3x - 2)°$, and $m\angle D = (3x - 2)°$, then find x.

5) Find *x* in each diagram below.

A)



You try! B)



Exploration #2: Use the link below to explore supplementary angles. Make sure you have chosen "**supplementary**" on the drop-down menu.

- Link: https://www.visnos.com/demos/basic-angles
- Click on the rays and drag them to different positions. Pay attention to the measures of the angles in the diagrams.
- Make a **conjecture** about **supplementary angles:**

Supplementary Angles

Definition of Supplementary Angles	If two angles are **supplementary** angles, then they have a sum of _____. Note: Supplementary angles do not need to be adjacent to each other.	
Supplement of an Angle	The **supplement of an angle** is the degree measure that adds up to _____ with the given angle measurement.	

6) Which pairs of angles below are supplementary angles? Select all that apply.

A) 42° and 48° B) 20° and 160° C) 10° and 80°

D) 90° and 90° E) 45° and 45°

7) Find the supplement of each angle below, if possible. Remember, angle measurements *must* be positive values.

A) 30° B) 71° C) 90° D) 132° E) 200°

8) Find the measure of $\angle \mathbf{3}$.

9) $\angle 1$ and $\angle 2$ are supplementary angles.
$\angle 1 = (4x + 8)°$ and $\angle 2 = (x + 2)°$.
Find the value of x.

Exploration #3: Click on the link below to explore an angle bisector.

- Link: https://www.geogebra.org/m/PrhX27f3
- For this exploration, $\overleftrightarrow{DB}$ bisects $\angle$ABC. Slide points A, B, C, and D to different positions. What do you notice about the angles formed?

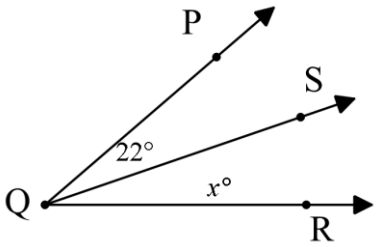
- Make a **conjecture** about what happens when an angle is bisected.

Bisecting an Angle

Bisecting an Angle	When **an angle is bisected**, two _____ angles are created.	

10) In the diagram shown, $\angle PQR$ is bisected by $\overrightarrow{QS}$.

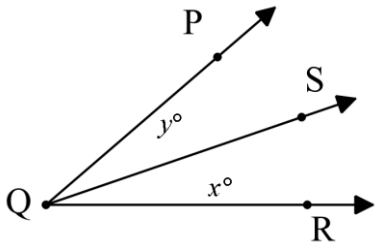
Find the value of x and the measure of $\angle PQR$.



11) In the diagram shown, $\angle PQR$ is bisected by $\overrightarrow{QS}$.

The measure of $\angle PQR$ is known to be 62°,

Find the value of x and y.



12) Draw an angle that is bisected by a ray. Create measurements for all three angles in the diagram that verify that the angle is bisected.

Ch 1 Study Guide

Skills you must be able to do:

- Solve equations for variables.
- Simplify Radicals
- Plot points
- Name shapes

Vocabulary you need to know:

- Acute angles: angles with a measure greater than 0 but less than 90 degrees
- Right angles: angles that measure exactly 90 degrees
- Obtuse angles: angles with measure greater than 90 but less than 180 degrees
- Straight angles: angles that measure exactly 180 degrees
- Angle Addition Postulate: the measure of adjacent angles can be added to find the value of the angle formed by their non-common rays
- Adjacent Angles: angles with a common ray and endpoint
- Vertical Angles:
  - opposite angles formed by two intersecting lines
  - vertical angles are congruent
- Linear Pair:
  - two adjacent angles that form a straight angle
  - the measures of linear pair angles have a sum of 180 degrees
- Complementary Angles: two angles whose measures have a sum of 90 degrees
- Supplementary Angles: two angles who measures have a sum of 180 degrees
- Bisecting an Angle: if a ray bisects an angle, then it divides the angle into two congruent angles