**Unit 7 - Angles**

Lesson 1: Complementary Angles.
Objective: Today we will find missing angle measurements involving complementary angles.
Standard: 8.G. 5

**Complementary Angles**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** angles add up to equal $90°$.

Complementary angles do not have to be \_\_\_\_\_\_\_\_\_\_ (next to each other) for them to be complementary.



Try These:

1. Complementary angles are two angles whose sum is \_\_\_\_\_\_\_
2. Complementary angles form what type of angle? \_\_\_\_\_\_\_
3. What is the complement of a 40 degree angle? \_\_\_\_\_\_\_
4. What is the complement of a 4 degree angle? \_\_\_\_\_\_\_
5. What is the complement of $30°$? \_\_\_\_\_\_\_
6. What is the complement of $x°$? \_\_\_\_\_\_\_

Solve for $x$ by setting up an equation

Lesson 2: Supplementary Angles.
Objective: Today we will find missing angle measurements involving supplementary angles.
Standard: 8.G.5

**Supplementary Angles**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** angles add up to equal $180°$.

An angle that equals $180°$ is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Supplementary angles do not have to be adjacent for them to be supplementary.

 

Try These:

1. Supplementary angles are two angles whose sum is \_\_\_\_\_\_\_
2. Supplementary angles form what type of angle? \_\_\_\_\_\_\_
3. What is the supplement of a 40 degree angle? \_\_\_\_\_\_\_
4. What is the supplement of a 4 degree angle? \_\_\_\_\_\_\_
5. What is the supplement of $30°$? \_\_\_\_\_\_\_
6. What is the supplement of $x°$? \_\_\_\_\_\_\_

Find the missing angles by setting up an equation.



Lesson 3: Vertical Angles.
Objective: Today we will find missing angle measurements involving vertical angles.
Standard: 8.G.5

**Vertical Angles**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are opposite angle pairs formed by two intersecting lines.

Vertical angles are **\_\_\_\_\_\_\_\_\_\_\_**.


 $\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$ are vertical angles

 $\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$ are vertical angles

Use the picture to the right:

1. Name an angle congruent to angle 1 \_\_\_\_\_\_\_
2. Name an angle supplementary to angle 1 \_\_\_\_\_\_\_
3. If angle 1 = $70°$, then: $<2=\\_\\_\\_\\_\\_ $, $<3=\\_\\_\\_\\_\\_$, $<4=\\_\\_\\_\\_$\_

**Example:**



Lesson 4: Angle Relationships
Objective: Today we will find missing angle measurements involving parallel lines cut by a transversal.
Standard: 8.G.5

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are lines that do not
 intersect.

 A **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is a line that crosses two
 or more parallel lines.

1

4

2

6

5

7

8

3

* Angles that are in the same position on both parallel lines are congruent. (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Angles that share a side (next to each other) are supplementary.
* Angles that are across from each other are vertical angles.

Use the diagram to answer the questions:

1. Lines $a$ and $b$ are \_\_\_\_\_\_\_\_\_\_\_
2. Line $c$ is called the \_\_\_\_\_\_\_\_\_\_\_\_
3. Name a pair of vertical angles \_\_\_\_\_ & \_\_\_\_\_
4. Name a pair of corresponding angles
\_\_\_\_\_ & \_\_\_\_\_
5. Name a pair of supplementary angles
\_\_\_\_\_ & \_\_\_\_\_
6. Name a pair of congruent angles \_\_\_\_ & \_\_\_\_\_
7. True or False: $<1≅<5$? \_\_\_\_\_
8. True or False: $<4≅<5$? \_\_\_\_\_
9. True or False: $<1≅<6$? \_\_\_\_\_
10. True or False: $<4≅<6$? \_\_\_\_\_
11. If $<1=60°$, then:

$<2=$\_\_\_\_\_

$<3=$\_\_\_\_\_

$<4=$\_\_\_\_\_

$<5=$\_\_\_\_\_

$<6=$\_\_\_\_\_

$<7=$\_\_\_\_\_

$<8=$\_\_\_\_\_

1. If $<6=100°$, then:

$<1=$\_\_\_\_\_

$<2=$\_\_\_\_\_

$<3=$\_\_\_\_\_

$<4=$\_\_\_\_\_

$<5=$\_\_\_\_\_

$<7=$\_\_\_\_\_

$<8=$\_\_\_\_\_

Lesson 5: Angle Relationships
Objective: Today we will find missing angle measurements involving parallel lines cut by a transversal.
Standard: 8.G.5



1. Find the value of $x$.

What are the measurements of the two angles?
\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_

1. Find the value of $x$

What are the measurements of the two angles?

\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_

Lesson 6: Interior Angles of a Triangle
Objective: Today we will find the measure of an interior angle of a triangle.
Standard: 8.G. 5

**Naming Angles:**

We name angles using 3 points.
The vertex must be the middle letter.

The angle can be named:

* $Type equation here.$
* $Type equation here.$

**Interior Angles of a Triangle**

* A **\_\_\_\_\_\_\_\_\_\_** is a three sided polygon.
* An angle that lies inside a triangle is called an **\_\_\_\_\_\_\_\_\_\_\_\_\_**.

The sum of the measures of the
interior angles of a triangle is $180°$.

 $x+y+z=180°$

**Example:**

Find the value of $x$ in the diagram.



Lesson 7: Exterior Angles of a Triangle
Objective: Today we will find the measure of an exterior angle of a triangle.
Standard: 8.G. 5

**Exterior Angles of a Triangle**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** are interior angles that are not **\_\_\_\_\_\_\_\_** to the exterior angle.

The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** states that the exterior angle of a triangle is equal to the sum of its two remote interior angles.

**Examples:**

1.  If $<A=91°$ and $<B=35°$ find $<1$
2. Suppose $<4=135°$. Find the measure of $<2$.

