

- Notes Pages
- Practice
- Assessment

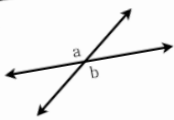
Angles a and b are supplementary.
 The measurement of _____
 Find the measurement of _____

Types of Angles - Practice Worksheet

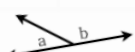
Name: _____

Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

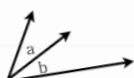
1



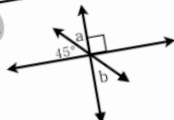
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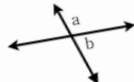
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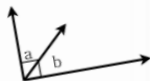
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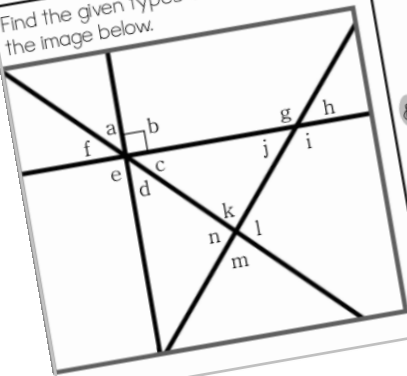
5



6



Find the given types of angles using the image below.

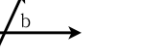
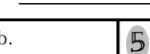


7 Name two pairs of supplementary angles.

8 Name two pairs of vertical angles.

9 Name a pair of complementary angles.

Name: _____

1  _____	2  _____	3  _____
Find the measure of angle b. Justify your answer. 	5 Find the measure of angle b. Justify your answer. 	10 Use the given angle

5 Find the measure of angle b. Justify your answer.

$m \angle a =$ _____
 $m \angle b =$ _____
 $m \angle c =$ _____
 $m \angle d =$ _____
 $m \angle e =$ _____
 $m \angle g =$ _____
 $m \angle h =$ _____
 $m \angle i =$ _____
 $m \angle k =$ _____
 $m \angle l =$ _____
 $m \angle n =$ _____

Possible Directions For Use:

1. Copy the Notes Pages for each student. I have students cut out each vocabulary word and glue it in (after the notes are finished), so I copy it single sided.
2. Use the answer key to guide you as you take students through the notes.
3. Once notes are completed, have students cut and paste them into their notebooks.
4. Pass out the worksheet as homework, in-class practice, or partner work.
5. The half-sheet exit slip can be used as a formative assessment, for homework, or as an entrance slip the next day.

Helpful hint: I have a bulletin board, where I staple up all notes pages answer keys after a lesson. This is helpful for absent students. I also will use it as a reference throughout the unit.

Types of Angles - Notes

Definition	Properties/Facts
supplementary angles	

Illustrations	Example Problem
	Angles a and b are supplementary. The measurement of angle a is 40° . Find the measurement of angle b.

Definition	Properties/Facts
complementary angles	

Illustration	Example Problem
	Angles a and b are complementary. The measurement of angle a is 23° . Find the measurement of angle b.

Types of Angles - Notes

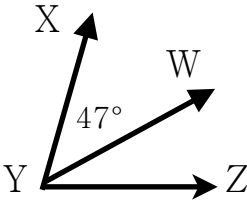
Definition	Properties/Facts

vertical angles

Illustrations	Example Problem
	Angles a and b are vertical angles. The measurement of angle a is 35° . Find the measurement of angle b.

Definition	Properties/Facts

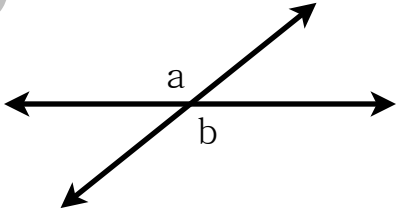
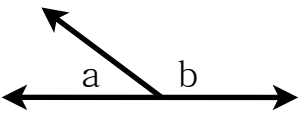
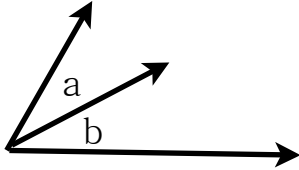
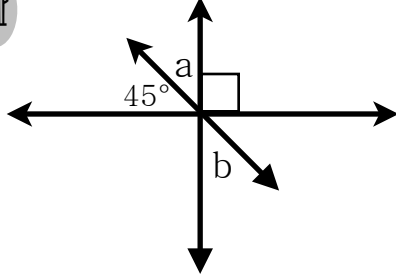
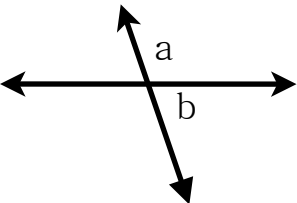
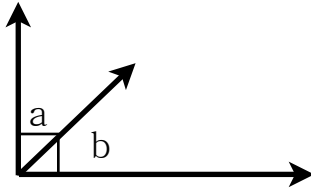
adjacent angles

Illustration	Example Problem
	The measurement of $\angle XYZ = 75^\circ$. Find $m\angle WYZ$.

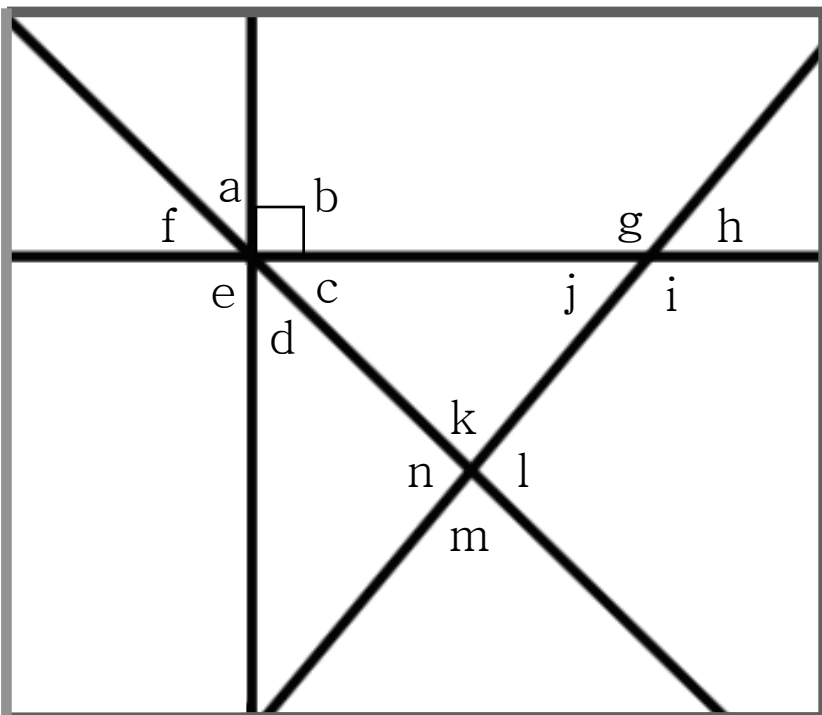
Types of Angles - Practice Worksheet

Name: _____

Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

1  _____	2  _____	3  _____
4  _____	5  _____	6  _____

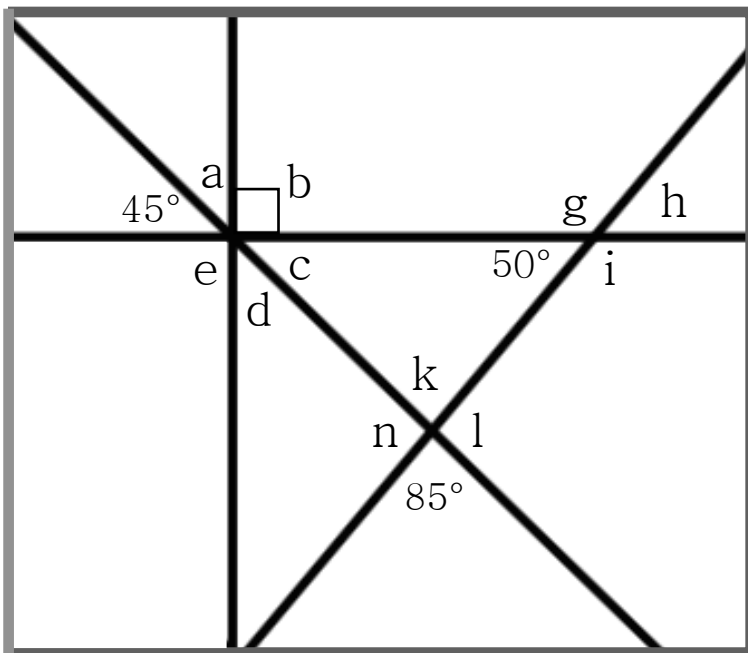
Find the given types of angles using the image below.



- 7 Name two pairs of supplementary angles.
- _____
- _____
- 8 Name two pairs of vertical angles.
- _____
- _____
- 9 Name a pair of complementary angles.
- _____

10

Use the given angle measurements to find the measurement of the other angles.



$$m\angle a = \underline{\hspace{2cm}}$$

$$m\angle b = \underline{\hspace{2cm}}$$

$$m\angle c = \underline{\hspace{2cm}}$$

$$m\angle d = \underline{\hspace{2cm}}$$

$$m\angle e = \underline{\hspace{2cm}}$$

$$m\angle g = \underline{\hspace{2cm}}$$

$$m\angle h = \underline{\hspace{2cm}}$$

$$m\angle i = \underline{\hspace{2cm}}$$

$$m\angle k = \underline{\hspace{2cm}}$$

$$m\angle l = \underline{\hspace{2cm}}$$

$$m\angle n = \underline{\hspace{2cm}}$$

Use a ruler to construct the given types of angles. Use a protractor to measure and label the angles with their measurements.

11

Complementary angles that are also adjacent.

12

Vertical angles.

13

Supplementary angles that are also adjacent.

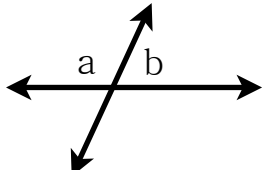
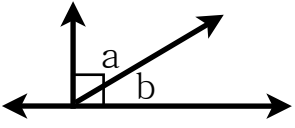
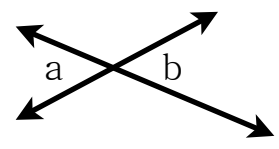
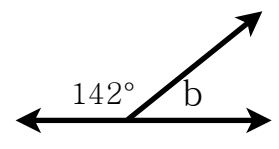
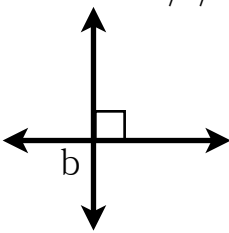
14

Supplementary angles that are not adjacent.

Types of Angles - Exit Slip

Name: _____

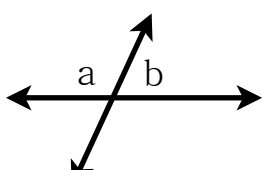
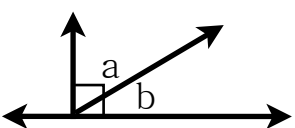
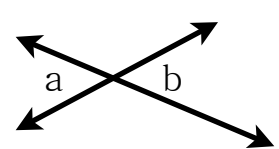
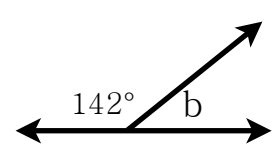
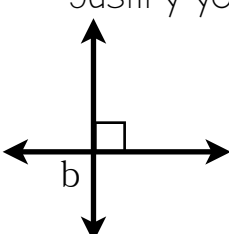
Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

1  _____	2  _____	3  _____
4 Find the measure of angle b. Justify your answer. 	5 Find the measure of angle b. Justify your answer. 	

Types of Angles - Exit Slip

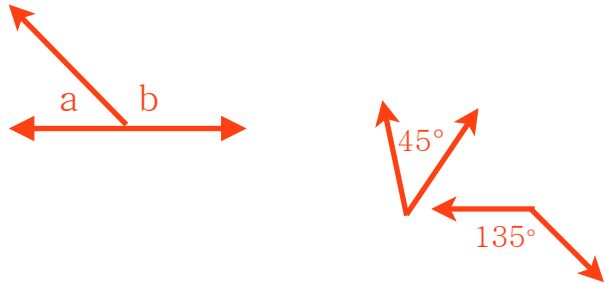
Name: _____

Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

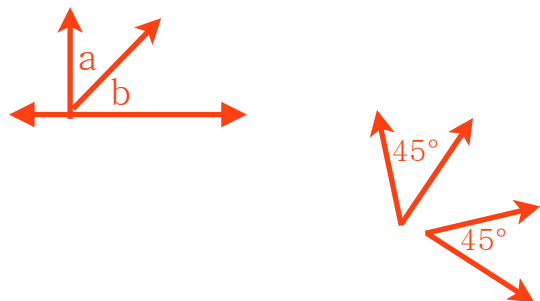
1  _____	2  _____	3  _____
4 Find the measure of angle b. Justify your answer. 	5 Find the measure of angle b. Justify your answer. 	

KEY

Definition	Properties/Facts
Two angles that have a sum of 180°	Angles do not have to share a ray or be connected
supplementary angles	

Illustrations	Example Problem
	Angles a and b are supplementary. The measurement of angle a is 40°. Find the measurement of angle b. $a + b = 180$ $40 + b = 180$ $b = 140^\circ$

Definition	Properties/Facts
Two angles that have a sum of 90°	Angles do not have to share a ray or be connected
complementary angles	

Illustration	Example Problem
	Angles a and b are complementary. The measurement of angle a is 23°. Find the measurement of angle b. $a + b = 90$ $23 + b = 90$ $b = 67^\circ$

KEY

Definition	Properties/Facts
Two angles formed when two lines intersect that are opposite each other	Vertical angles are congruent. Share a vertex but no common ray.
vertical angles	

Illustrations	Example Problem
	Angles a and b are vertical angles. The measurement of angle a is 35°. Find the measurement of angle b. $a = b$ $35 = b$ $b = 35^\circ$

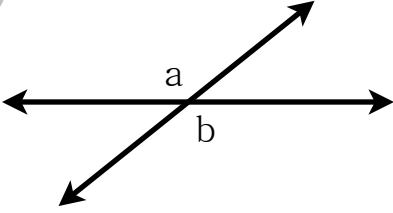
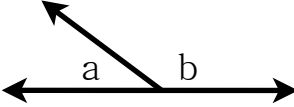
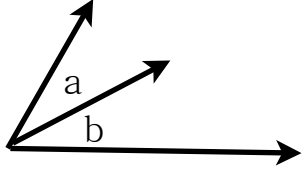
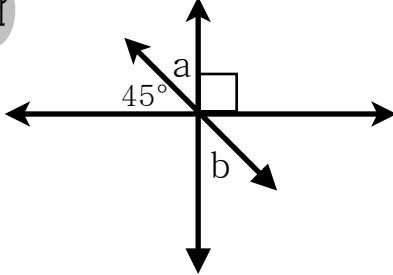
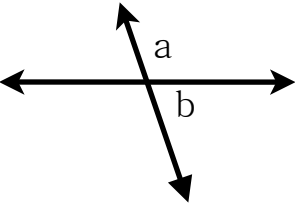
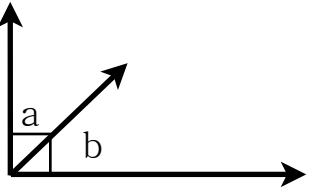
Definition	Properties/Facts
Two angles that share a common vertex and a common ray	When two lines intersect, adjacent angles are also supplementary.
adjacent angles	

Illustration	Example Problem
	The measurement of $\angle XYZ = 75^\circ$. Find $m\angle WYZ$. $a + 47 = 75$ $a = 28^\circ$

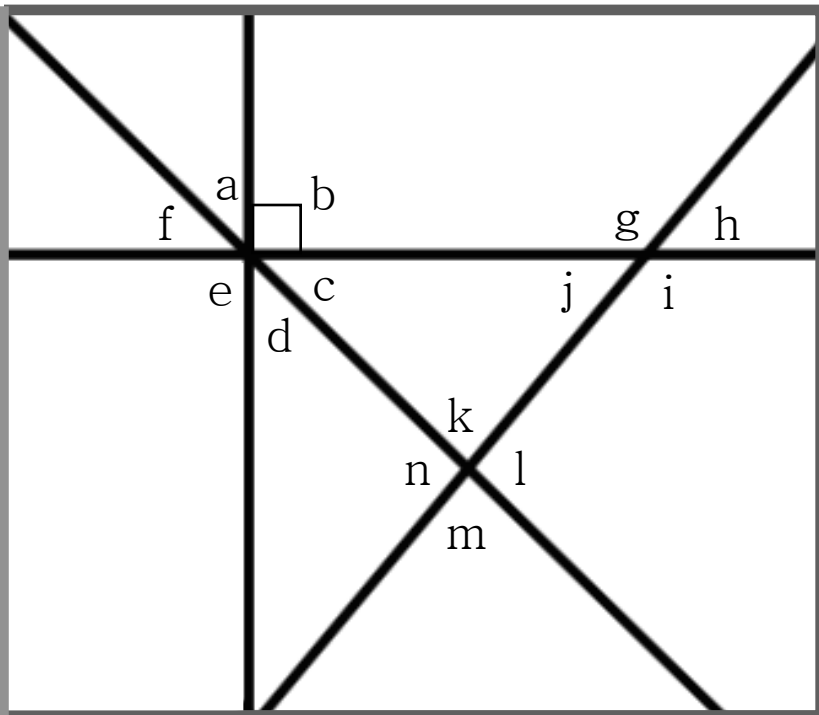
Types of Angles - Practice Worksheet

Name: KEY

Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

1  <u>Vertical</u>	2  <u>Adjacent and Supplementary</u>	3  <u>Adjacent</u>
4  <u>Vertical and Complementary</u>	5  <u>Adjacent and Supplementary</u>	6  <u>Adjacent and Complementary</u>

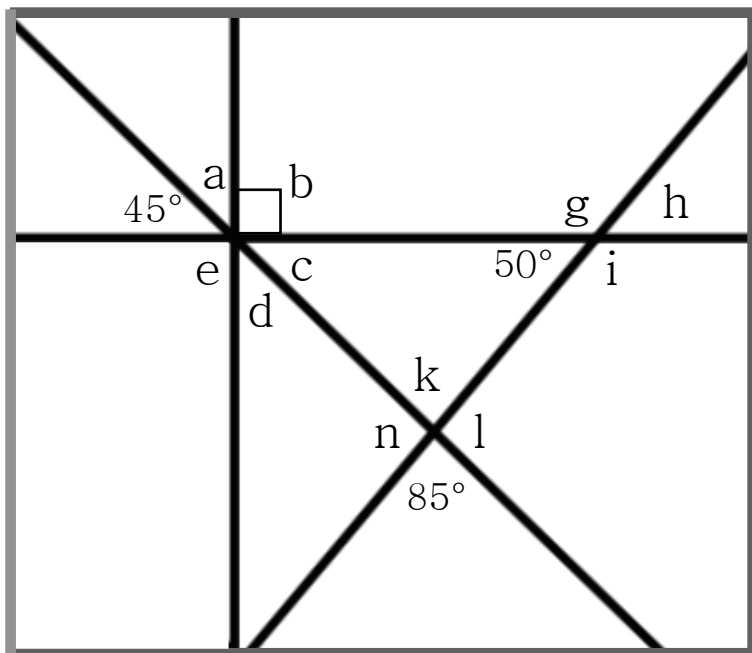
Find the given types of angles using the image below.



- 7 Name two pairs of supplementary angles.
example:
 $\angle g$ and $\angle h$
- 8 Name two pairs of vertical angles.
example:
 $\angle j$ and $\angle h$
- 9 Name a pair of complementary angles.
example:
 $\angle c$ and $\angle d$

10

Use the given angle measurements to find the measurement of the other angles.



$$m \angle a = 45^\circ$$

$$m \angle b = 90^\circ$$

$$m \angle c = 45^\circ$$

$$m \angle d = 45^\circ$$

$$m \angle e = 90^\circ$$

$$m \angle g = 130^\circ$$

$$m \angle h = 50^\circ$$

$$m \angle i = 130^\circ$$

$$m \angle k = 85^\circ$$

$$m \angle l = 95^\circ$$

$$m \angle n = 95^\circ$$

Construct the given types of angles. Then use a protractor to measure the angles.

11

Complementary angles that are also adjacent.

Answers will vary

12

Vertical angles.

13

Supplementary angles that are also adjacent.

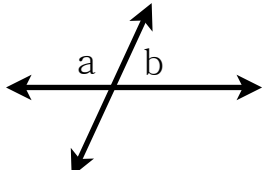
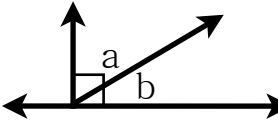
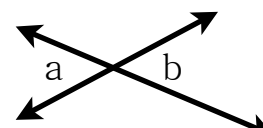
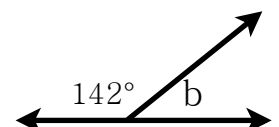
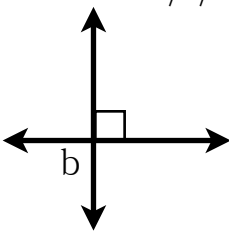
14

Supplementary angles that are not adjacent.

Types of Angles - Exit Slip

Name: _____

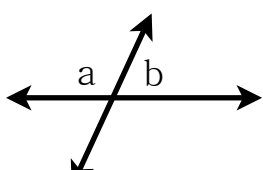
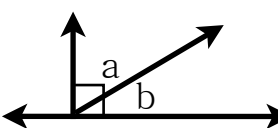
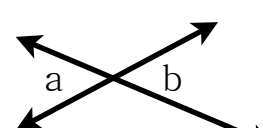
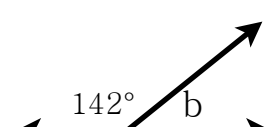
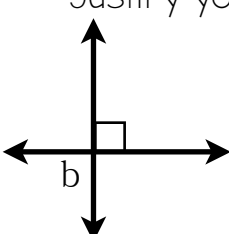
Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

1  Adjacent and Supplementary	2  Adjacent and Complementary	3  Vertical
4 Find the measure of angle b. Justify your answer.  38° The angles are supplementary, so their sum is 180°	5 Find the measure of angle b. Justify your answer.  90° The angles are vertical, so they are congruent. (they are also supplementary)	

Types of Angles - Exit Slip

Name: _____

Identify angles a and b as supplementary, complementary, vertical, or adjacent. If an angle can be classified as more than one type, write all that apply.

1  _____	2  _____	3  _____
4 Find the measure of angle b. Justify your answer. 	5 Find the measure of angle b. Justify your answer. 	

Click on the links below!



Using Properties of Angles to Solve Equations

Notes

Using Angle Measurements to Solve Multi-Step Equations

Write an equation for each missing angle complete the following steps.

(1) _____

(2) _____

(3) _____

Type of Angles: _____
Key Information: _____
Equation: _____
Solution: _____

Type of Angles: _____
Key Information: _____
Equation: _____
Solution: _____

Type of Angles: _____
Key Information: _____
Equation: _____
Solution: _____

Type of Angles: _____
Key Information: _____
Equation: _____
Solution: _____

Type of Angles: _____
Key Information: _____
Equation: _____
Solution: _____

Name: _____

Using Angles to Solve Equations - Exit Slip

Write an equation and solve for the missing number. Show your work.

①

②

③

④
m∠XYZ = 100°

⑤

• Notes Page
• Practice
• Assessment

Math on the Move
HOUGHTON MIFFLIN HARCOURT
Learning Technology

Using Properties of Angles to Solve Equations

Angles and Equations - Coloring Activity

Use the angle properties and equations for the coloring activity. Show your work.

1. $m\angle 1 = 70^\circ$

2. $m\angle 2 = 110^\circ$

3. $m\angle 3 = 120^\circ$

4. $m\angle 4 = 130^\circ$

5. $m\angle 5 = 140^\circ$

6. $m\angle 6 = 150^\circ$

7. $m\angle 7 = 160^\circ$

8. $m\angle 8 = 170^\circ$

9. $m\angle 9 = 180^\circ$

10. $m\angle 10 = 190^\circ$

11. $m\angle 11 = 200^\circ$

12. $m\angle 12 = 210^\circ$

KEY:

- $x = 10$ red
- $x = 5$ orange
- $x = 0$ yellow
- $x = 5$ purple
- $x = 3$ green
- $x = 2$ blue

Math on the Move

Measuring and Constructing Angles

Thank You!!

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