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Teacher Notes

I sincerely hope that you and your students enjoy this measurement unit! This unit has been designed around the Common Core Standards, but you should find the content useful in any fourth grade classroom. In this unit you will find performance tasks to conceptually teach new skills through the workshop model, as well as work station activities and games for review. I have also included a suggested pacing guide below. As always, feel free to contact me if you have any questions. ashleigh_60@hotmail.com

Unit at a Glance

Angles	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
	Measuring Angles Skill: Types of Angles	Make a Protractor Skill: Reading a Protractor	Using a Protractor Skill: Drawing Angles	Splitting Angles Skill: Protractor Practice	Angle Town Skill: Missing Angles
Measurement Conversions	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10
	Party Punch Skill: Capacity Conversion	Filling Paint Skill: Converting Liters to Milliliters	Weight Word Problems Skill: Weight Conversions	Baker's Dilemma Skill: Mass Conversions	Reading a Ruler Skill: Length Conversion
Measurement Conversions Area & Perimeter	Lesson 11	Lesson 12	Lesson 13	Lesson 14	Lesson 15
	Map My Run Skill: Converting Metric Length	Daily Schedule Skill: Converting Time	Fixed Area and Perimeter Skill: Find the Area and Perimeter	Pentomino Perimeter and Area Skill: Draw the Area & Perimeter	Area Garden Skill: Area is Additive
Area & Perimeter & Line Plots	Lesson 16	Lesson 17	Lesson 18	Lesson 19	Lesson 20
	Design a Mall Skill: Find the Missing Side	Construction Decisions Skill: Two Step Word Problems	Area and Perimeter Booklet Skill: Spin and Cover	Pencil Line Plot Skill: Reading a Line Plot	Line Plot Recipes Skill: Line Plot Practice

20 Detailed Lesson Plans

Lesson I: Measuring Angles

Standard: 4.MD.5-Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle

Standard

Materials:

- Index Cards
- Measuring Angles Recording Sheet

Materials

Mini-lesson:

Mini Lesson

By the time students are introduced to angles, they will have likely learned about types of angles through the geometry in second, third, and fourth grade, so students will hopefully be familiar with the terms acute, right, and obtuse. However, before teaching students how to use a protractor to measure angles, it is important for students to conceptualize the attribute of the spread of the rays. Students should see that two angles can be directly compared by tracing and placing it over the other.

Before teaching degrees, this lesson has students measure angles with one unit. Give students an index card and have students draw a narrow angle on the index card and cut it out. The wedge that is cut out should be used as a unit of angular measure by counting the number that will fit in a given angle. Students should use their unit of measure to measure the angles on the Measuring Angles Recording Sheet.

Work Time:

Work Time

Have students work individually to complete the Measuring Angles Recording Sheet. Students will use the wedge they cut out to determine how many wedges it will take to cover the entire angle. Since each student will create his/her own wedge the total units needed will vary.

Closing:

Closing

Discuss what will happen if the size of the unit increases. Cut out a new, larger unit and measure a few of the angles. Then, discuss what will happen if the size of the unit decreases. Cut out a new, smaller unit and measure a few of the angles.

Intervention:

- Have students use the tan rhombus to trace the angle on their index card.

Intervention

Extension:

- Have students determine how many units it would take to form a complete circle.

Extension

Essential Questions:

What are angles?

Essential Questions

Formative Assessment:

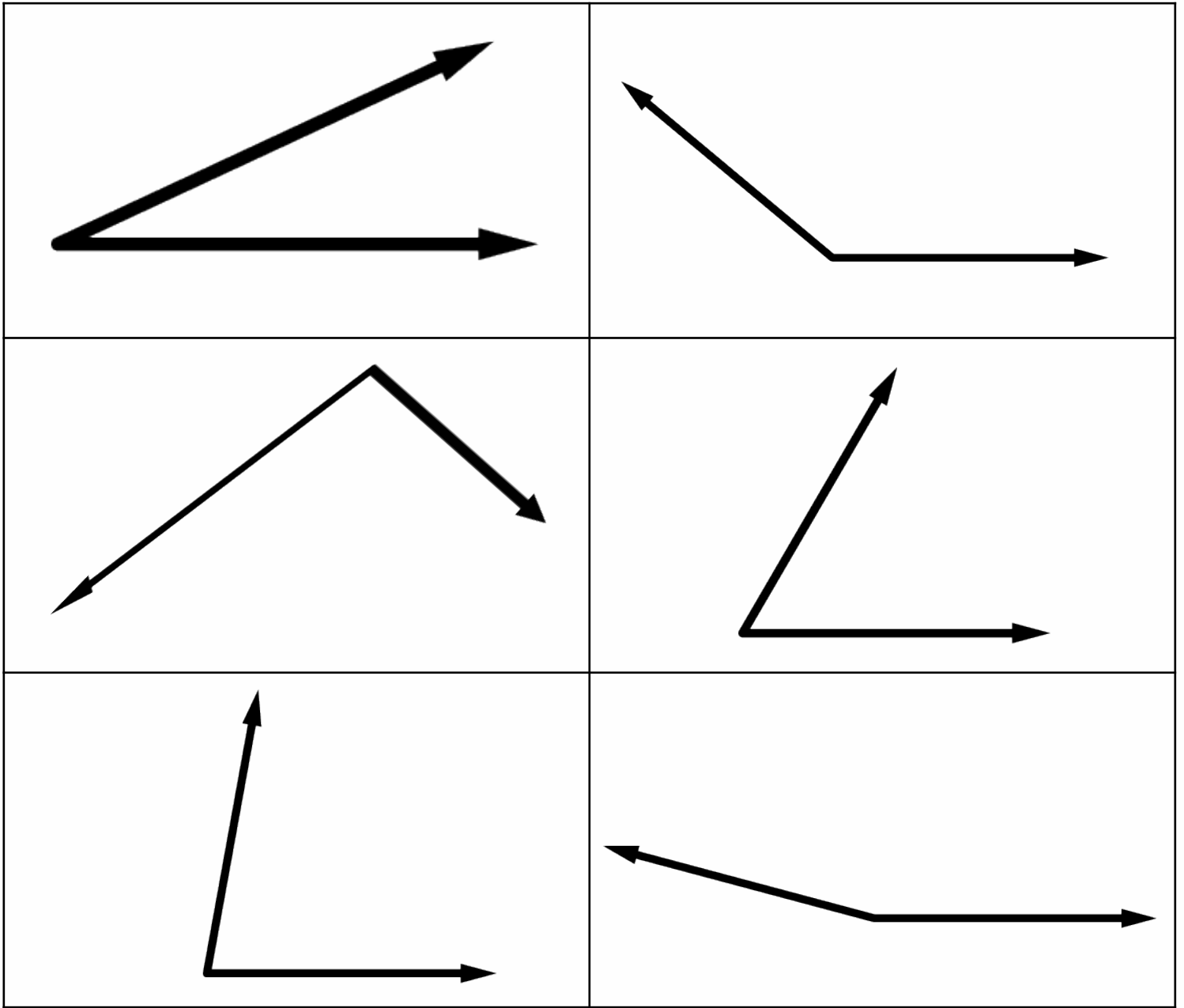
- Observe students as they work.
- Look for misconceptions or errors.

Formative Assessment

Name _____

Date _____

Measuring Angles



Angle	How large is the angle?
1	
2	
3	
4	
5	
6	

How does the size of the wedge effect the number of units needed to cover the angle?

20 Conceptual Activities

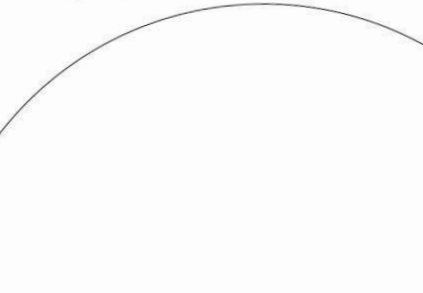
Name _____
Date _____

ANGLE TOWN

Angle Town is shaped like a circle. All of the roads start in the center of Angle Town and extend from the center. On the map below, draw each road and label the measure of each angle.


- Oak Street extends horizontal to the right of the town center.
- Oak Street and Main street form a 45 degree angle.
- First Avenue forms a 25 degree angle with Main Street.
- Bay Street forms a 90 degree angle with First Avenue.
- Mulberry forms a 100 degree angle with Bay Street.

After you draw the roads, you may add fun details to Angle Town and make it look like a real town!



Name _____

Measurements



The grid below shows a plot of land.

Use the grid to design five different flowers or vegetables. Label the plot.

Party Punch

Name _____ Date _____

The fourth graders are throwing a party for their teachers. There will be 100 people at the party, and the punch recipe they found serves 20 people. Use the recipe below to answer questions about the punch served at the party.

Punch Ingredients

- 2 Pints Orange Sherbet
- 2 Quarts Fruit Punch
- 32 Ounces Lemon-Lime flavored carbonated beverage

How much of each ingredient will the fourth graders need to serve 100 people?

- Orange Sherbet- _____
- Fruit Punch- _____
- Lemon-Lime Beverage- _____

Use the ORIGINAL recipe to answer the questions below.

1. How many CUPS of fruit punch are needed? _____

If punch and sherbet would you have? _____

ment Garden

land where you are going to plant a flower garden.
erent flower beds, each for a different type of
rimeter and area of each flower bed. Then, cut out
a design of your choice on a piece of construction

Name _____

Fixed Area and Perimeter

- Use the grid paper to draw a rectangle with a perimeter of 24 units.
- Measure the dimensions of the rectangle and record the dimensions on the table below.
- Find the area of each rectangle.
- Repeat for all possible rectangles with a perimeter of 24 units.

the flower beds and glue them in a notebook. When you're finished, write together for the total area of your garden to create a garden plan.

Perimeter of 24	
Rectangle Dimensions	Area

[illegible]

See Example Lesson

Date_____

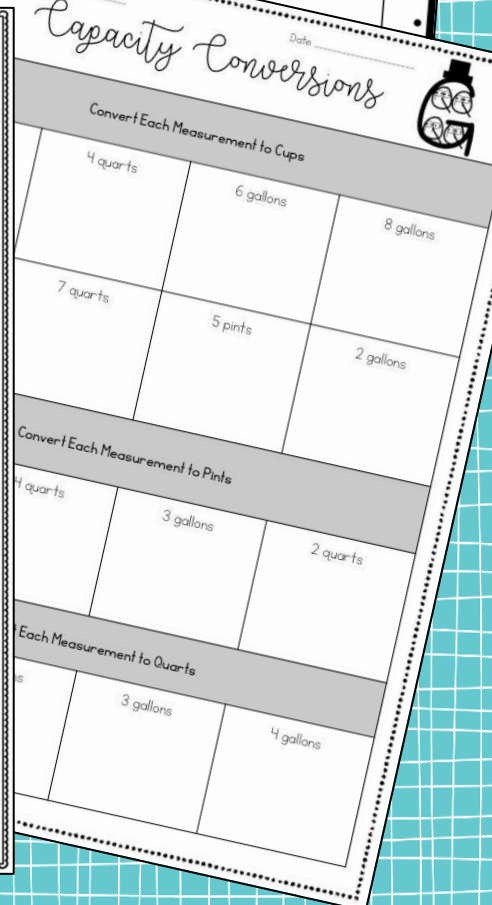
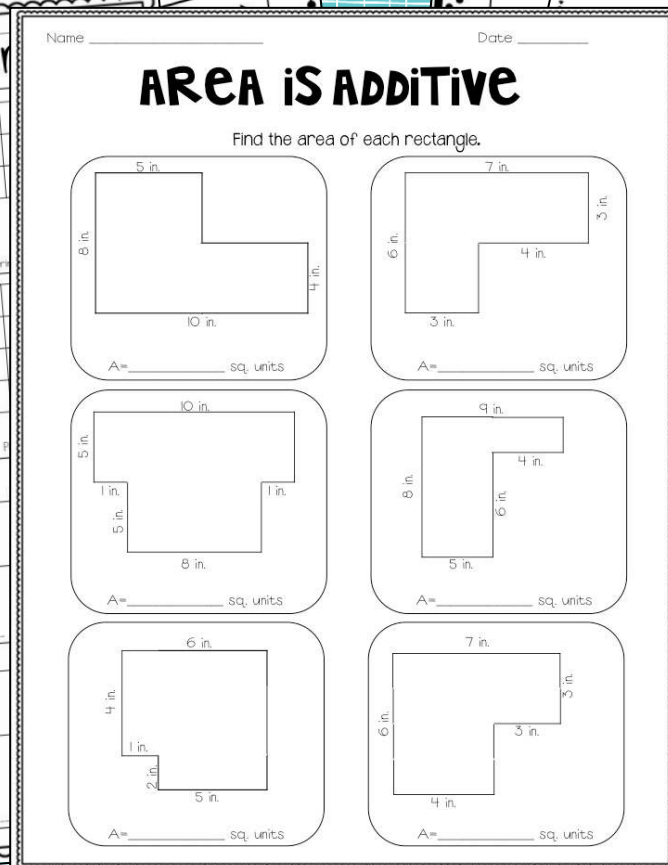
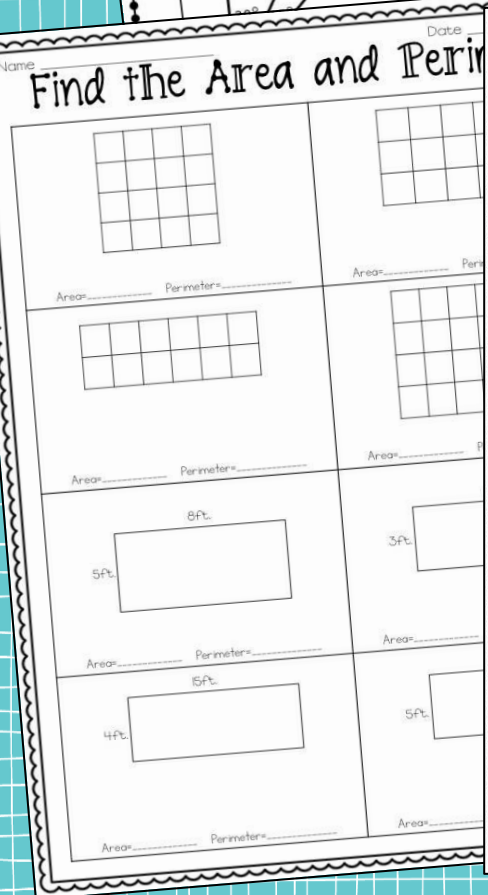
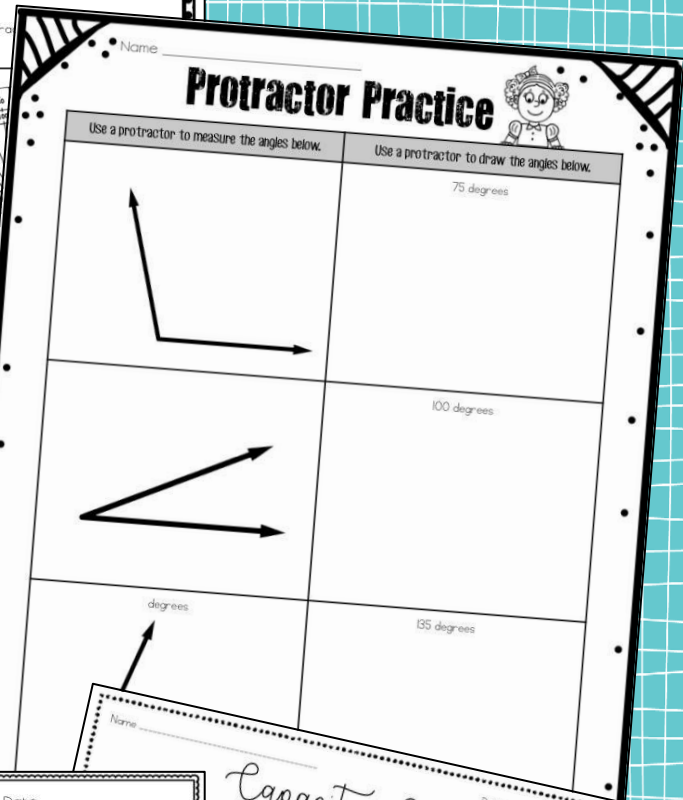
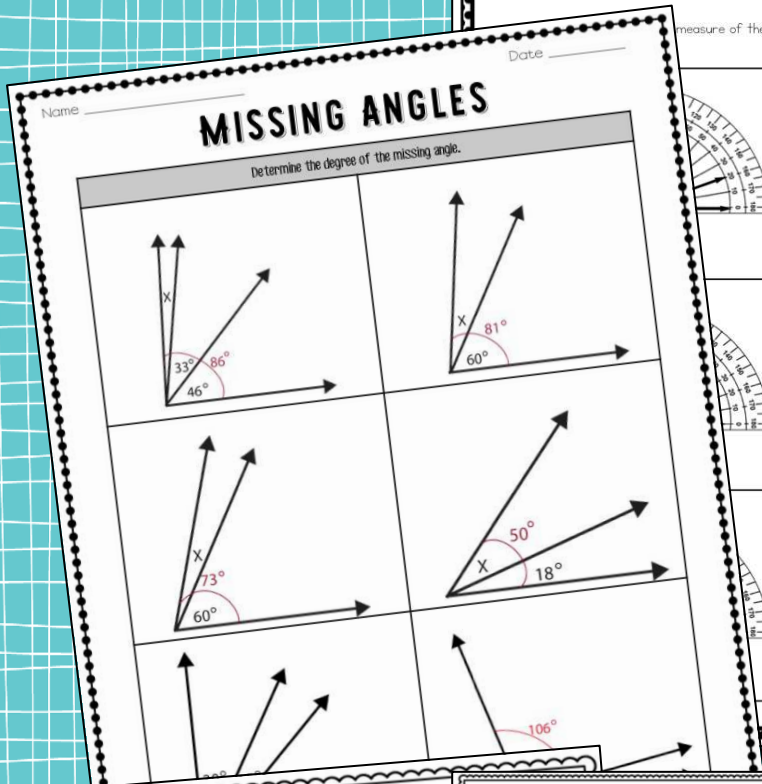
Build your own mall. You should add at least six different stores and one restaurant. You may also want to add other details such as walkways. Just be sure to use every square foot available! Record the area and perimeter of each store on the recording sheet.

This image shows a full page of blank graph paper. The grid consists of small, identical squares formed by thin black lines. There are 20 columns and 20 rows of these squares, creating a total of 400 square units. The grid covers the entire area of the page, leaving no margins or other markings.

Date_____

[illegible]

20 Skills Practice Printables



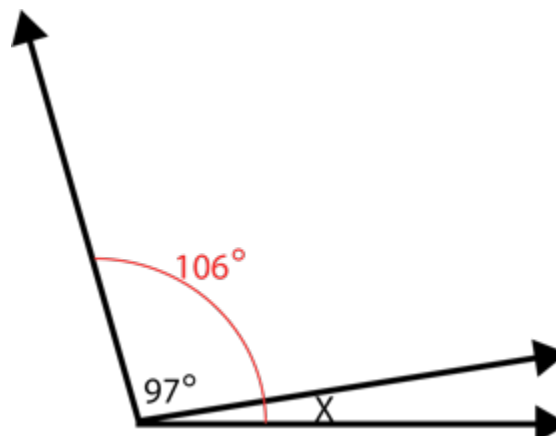
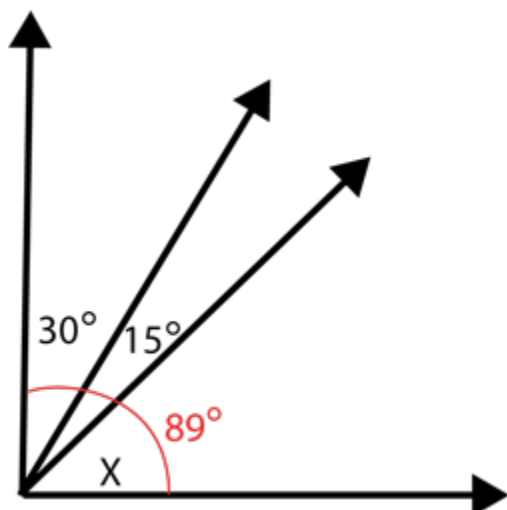
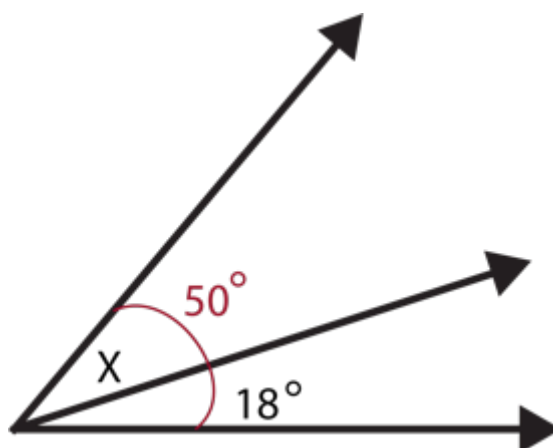
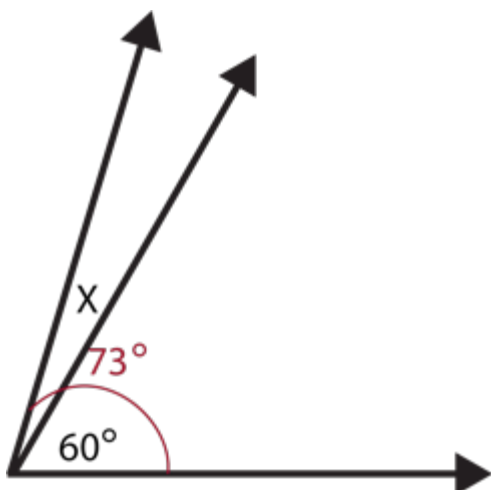
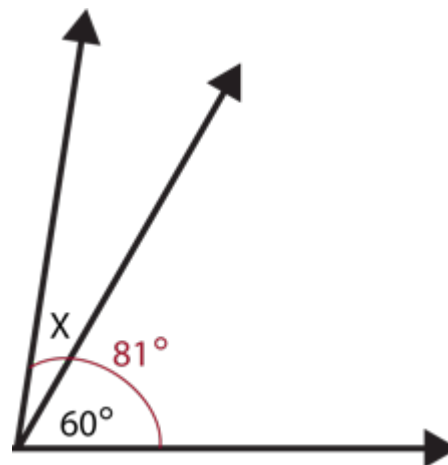
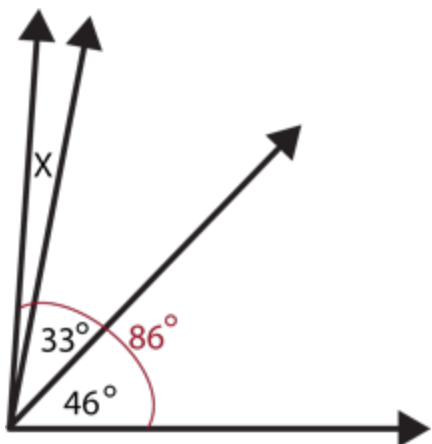
Aligned to Each Lesson

Name _____

Date _____

MISSING ANGLES

Determine the degree of the missing angle.



2 Booklets

