Lesson 15: Reasoning About Angles (Part 2)
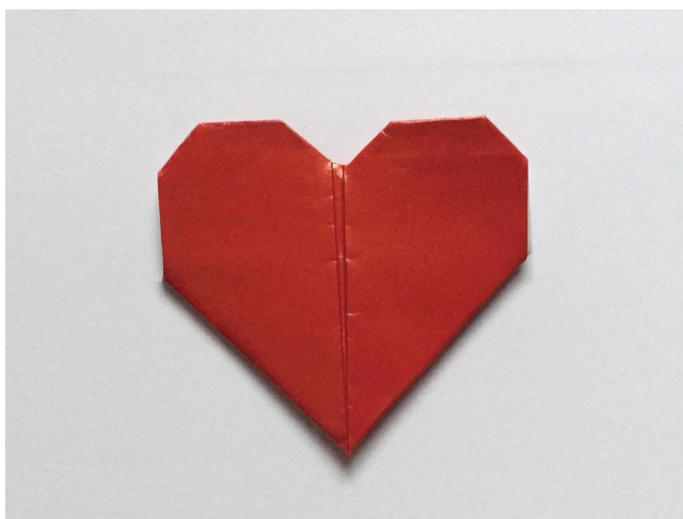
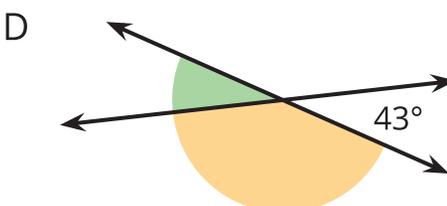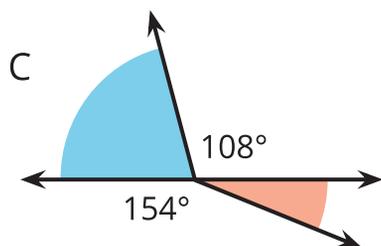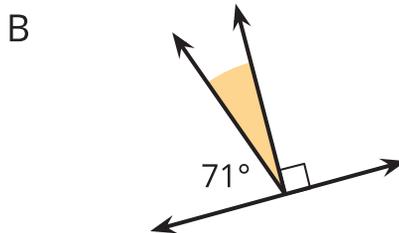- Let's figure out missing angle measurements.
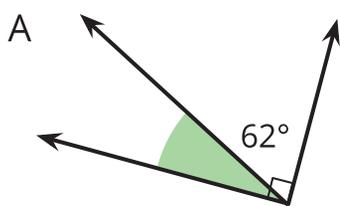
Warm-up: How Many Do You See: Obtuse Angles

How many angles do you see in the folded paper heart?

15.1: Shaded and Unshaded Angles

Find the measurement of each shaded angle. Show how you know.

A

62°

B

71°

C

108°

154°

D

43°

15.2: Info Gap: A Whole Bunch of Angles

Your teacher will give you either a problem card or a data card. Do not show or read your card to your partner.

Problem Card Student	**Data Card Student**
Silently read the problem card.	**Silently read the data card.**

"Can you tell me _____?"
(Ask for a specific piece of information.)

"Why do you need to know ____?"
(Repeat the information requested)

"I need to know_____because. . ."

Listen to your partner's reason.

Answer with information from the data card.

"I have enough information to solve this problem."

Display the problem card.

Solve the problem independently.
Continue to ask questions if more information is needed.

Share Data Card, then compare strategies and solutions.

Pause here so your teacher can review your work. Ask your teacher for a new set of cards and repeat the activity, trading roles with your partner.

Section Summary

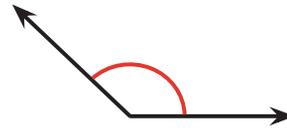Section Summary
Earlier in the unit, we learned that a right angle measures exactly 90°. In this section, we learned other ways to name angles based on their measurements.

- **Acute angles** are less than 90°.
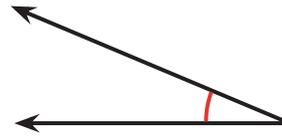
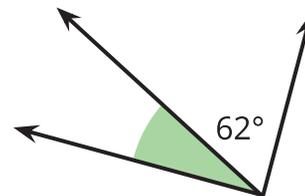- **Obtuse angles** are greater than 90° but less than 180°.

- **Straight angles** are exactly 180°.

We also solved problems about angles. For example, if two angles make a right angle or a straight angle, we can use the size of one angle to find the other.

The shaded angle here must be 28° because it makes a right angle when combined with the 62° angle.

Another example: Knowing that a full turn measures 360°, we reasoned that the long hand of a clock makes:

- a 360° angle every hour

- a 180° angle every one-half hour

- a 90° angle every 15 minutes

- a 60° angle every 10 minutes