

FAMILY MATH

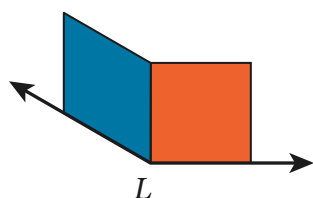
Determine Unknown Angle Measures

Dear Family,

Your student has been learning to draw and measure angles. Now they are using addition and subtraction to find unknown measures of angles. They begin by combining pattern blocks and folding paper to break angles into measurable parts. They write and solve equations to find unknown angle measures. Students recognize that they can find the measures of angles without using a protractor by using what they know about different types of angles.

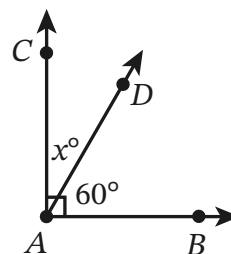
Key Terms

adjacent angles
complementary angles
supplementary angles



$$60 + 90 = 150$$

Students use pattern blocks to break apart an angle into two parts. They add the measures of the angles to find the measure of the larger angle.



$$x + 60 = 90$$

$$x = 30$$

The measure of $\angle CAD$ is 30° .

Students write and solve equations to find unknown angle measures in a drawing. This drawing shows that the larger angle is a right angle, so the measures of the smaller angles must add to 90° .

	Adjacent angles	Nonadjacent angles
The measures of complementary angles have a sum of 90° .		
The measures of supplementary angles have a sum of 180° .		

Students learn that two angles that share a vertex and a side are called adjacent angles. They also learn to identify complementary angles and supplementary angles.

At-Home Activities

Explore Adjacent Angles

Help your student explore the relationship between two adjacent angles that form a right angle. Use the corner of a table to model a right angle. Tape a piece of yarn or string to the corner of the table to model a ray that can move. Use the yarn to create different pairs of complementary angles. Let your student move the ray and discuss the relationship between the angles they make. Consider asking the following questions.

- “Can you move the ray to make two angles that appear to have the same measure?”
- “If the two angles are equal in measure, what is the measure of each angle?”
- “Can you move the ray to make two angles that have very different measures?”
- “If the measure of one angle gets larger, what happens to the measure of the other angle?”

Finding Complementary Angles and Supplementary Angles

Encourage your student to look for pairs of complementary angles and pairs of supplementary angles in their daily life. Following are examples to help guide their thinking.

- The corners of two books that are each right angles form a pair of supplementary angles because $90^\circ + 90^\circ = 180^\circ$.
- Two pieces of pizza may represent complementary angles if the pizza is cut into eight equal slices.