

# Dimensions Math

## Grade 4 Letter Home #15

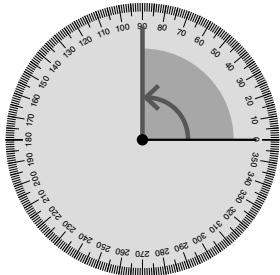
### Chapter 15 Angles

Dimensions Math  
Letters Home

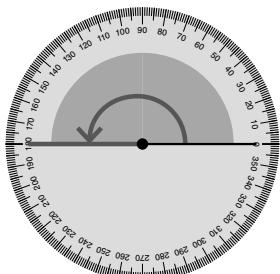
## Home Connection

In Dimensions Math 3B, your child identified angles. In this chapter, your child will classify, measure, and then draw angles around a circle. Your child will be learning many new terms in this chapter. Angles of a circle are defined first.

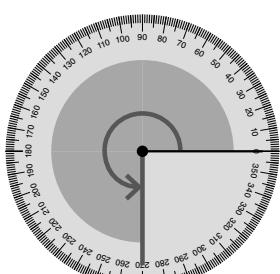
Angles are measured in degrees.



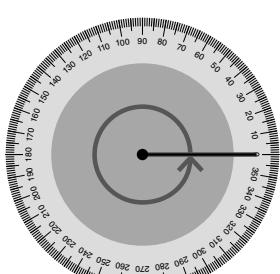
A quarter turn is  $90^\circ$ . A  $90^\circ$  angle is a **right angle**. Angles that measure between  $0^\circ$  and  $90^\circ$  are called **acute angles**.



A half turn is  $2 \times 90^\circ = 180^\circ$ . A  $180^\circ$  angle makes a straight line. Angles that measure between  $90^\circ$  and  $180^\circ$  are called **obtuse angles**. A  $180^\circ$  angle is called a **straight angle**.

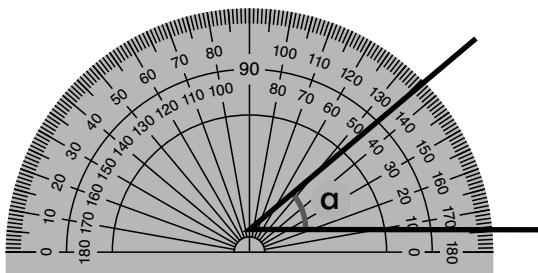


A three-quarter turn is  $3 \times 90^\circ = 270^\circ$ . Angles that measure between  $180^\circ$  and  $360^\circ$  are called **reflex angles**.

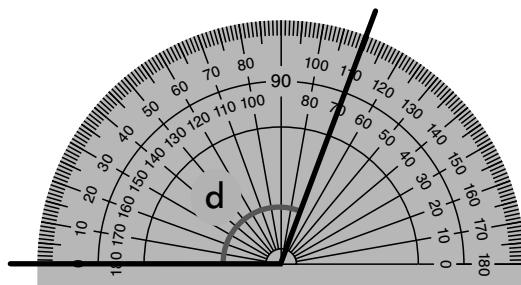


A full turn is  $4 \times 90^\circ = 360^\circ$ .

Your child will use a protractor to measure angles.

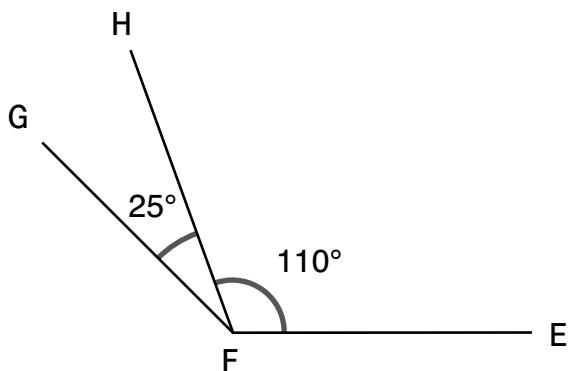


The measure of  $\angle a$  is  $40^\circ$ .  
Because the angle is acute,  
we read the inner scale to find the angle  
measurement.

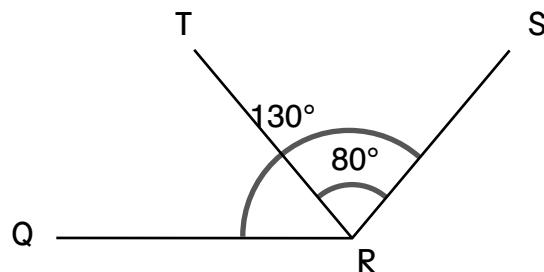


The measure of  $\angle d$  is  $110^\circ$ .  
Because the angle is obtuse, we read the  
outer scale to find the angle measurement.

Finally, your child will calculate the measurement of unknown angles using other given angle measurements.

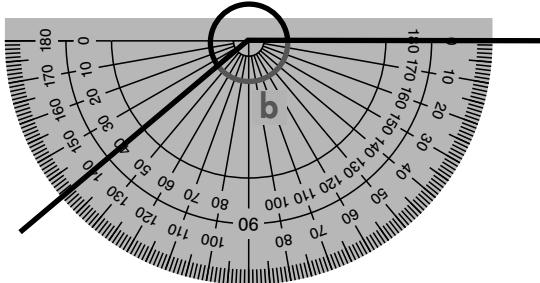


To find the measure of  $\angle GFE$ , we add.  
 $25^\circ + 110^\circ = 135^\circ$



To find the measure of  $\angle QRT$ , we subtract.  
 $130^\circ - 80^\circ = 50^\circ$

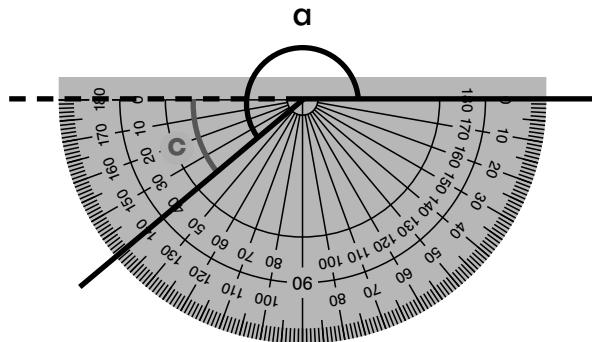
Students will learn two ways to measure reflex angles.



Measure the opposite angle and subtract that from  $360^\circ$ .

$\angle b$  is  $140^\circ$ .

$$360^\circ - 140^\circ = 220^\circ$$



Measure the angle between  $180^\circ$  and add that to  $180^\circ$ .

$\angle c$  is  $40^\circ$ .

$$180^\circ + 40^\circ = 220^\circ$$

## What can we do at home?

- Your child might enjoy measuring angles around the house or on paper. Measuring with a protractor is a wonderful way to practice geometry skills.
- There is a lot of vocabulary in this chapter, some of which might be new to your child. Consider practicing and defining the terms at home.