

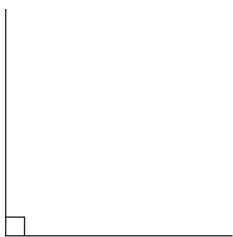
Naming Angles



Quick Review

An angle is formed when 2 lines meet.

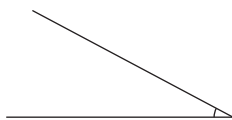
right angle



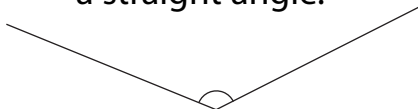
straight angle



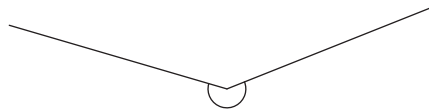
An **acute angle** is less than a right angle.



An **obtuse angle** is greater than a right angle, but less than a straight angle.



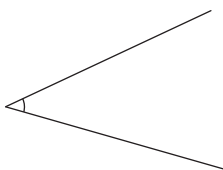
A **reflex angle** is greater than a straight angle.



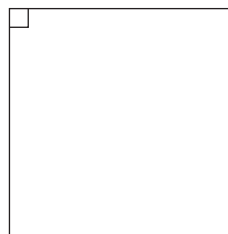
Try These

1. Name each angle as a right, acute, obtuse, straight, or reflex angle.

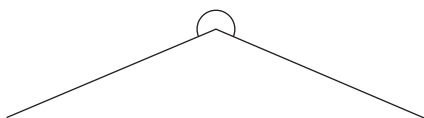
a)



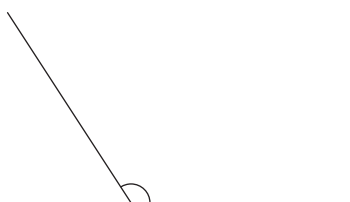
b)



c)



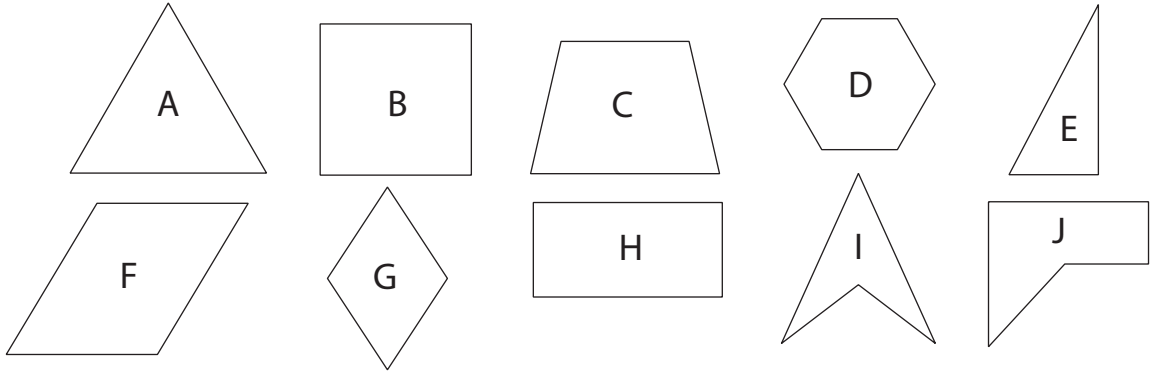
d)



Practice

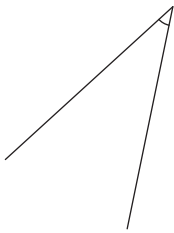
1. List the shapes with:

- a) a right angle _____ b) an obtuse angle _____
 c) an acute angle _____ d) a reflex angle _____

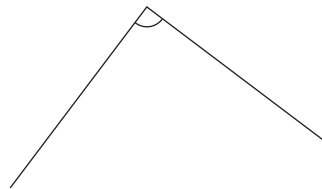


2. Name each angle.

a)



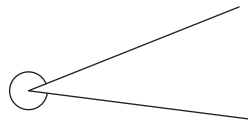
b)



c)



d)



Stretch Your Thinking

Think about the angles formed by the hour hand and the minute hand on a clock. Write a time when the angle is:

- a) an acute angle _____ b) an obtuse angle _____
 c) a right angle _____ d) a reflex angle _____

Exploring Angles



Quick Review

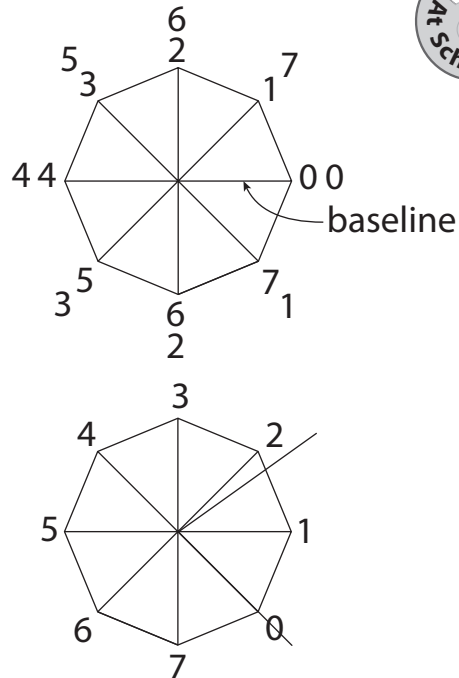
► A **protractor** measures angles.

The protractor you made looks like this:

It is divided into 8 equal units. The units are labelled from 0 to 7 clockwise and counterclockwise.

To measure an angle, count how many units fit the angle.

This angle is about 2 units.

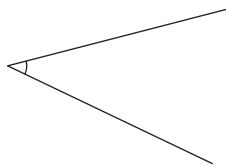


Try These

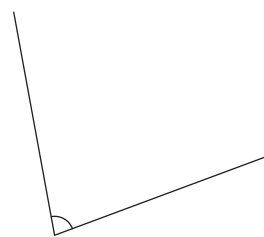
Use an 8-unit protractor.

1. Use your protractor to measure each angle.

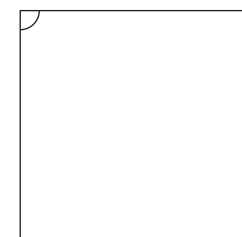
a)



b)

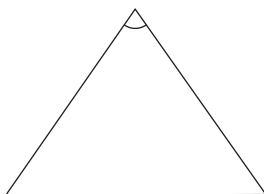


c)

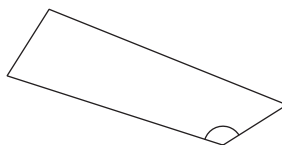


2. Use your protractor to measure the marked angle in each polygon below.

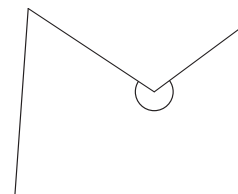
a)



b)



c)



Practice

Use an 8-unit protractor.

1. Measure each angle. Record the measurements in the chart.

a)

A

b)

B

c)

C

d)

D

| Angle | Measure |
|-------|---------|
| A | |
| B | |
| C | |
| D | |

2. Use the angle measures from question 1. Write $<$, $>$, or $=$.

a) D _____ A b) B _____ C c) A _____ C

3. Use a ruler. Estimate to draw each angle.

a) a $2\frac{1}{2}$ -unit angle b) a 7-unit angle c) a 4-unit angle

4. Measure each angle you drew in question 3. Record the measures.

a) _____ b) _____ c) _____

Stretch Your Thinking

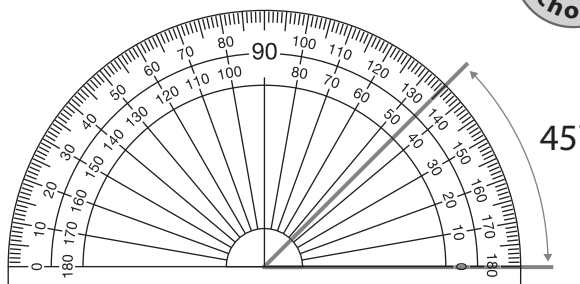
Explain how you can use your 8-unit protractor to measure a reflex angle.

Measuring Angles



Quick Review

- ▶ A **standard protractor** shows angle measures from 0° to 180° , both clockwise and counterclockwise. The measure of this angle is 45° .



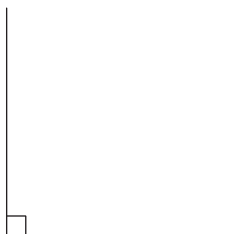
- ▶ Angles are named according to their measures in degrees.

Acute Angle



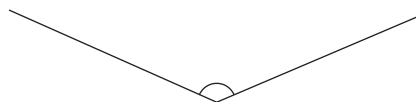
less than 90°

Right Angle



90°

Obtuse Angle



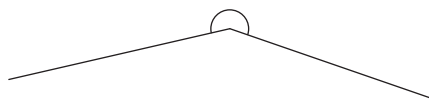
between 90° and 180°

Straight Angle



180°

Reflex Angle



between 180° and 360°

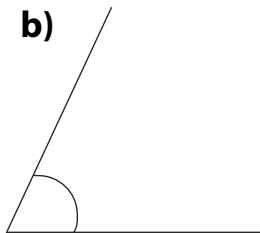
Try These

1. Use a protractor to measure each angle. Record the measurements.

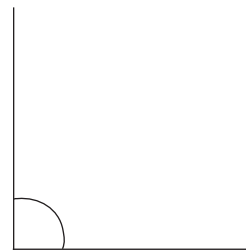
a)



b)

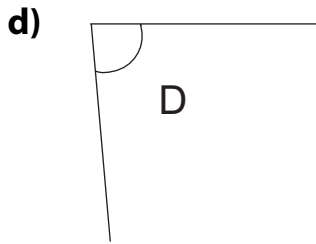
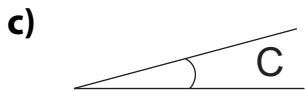
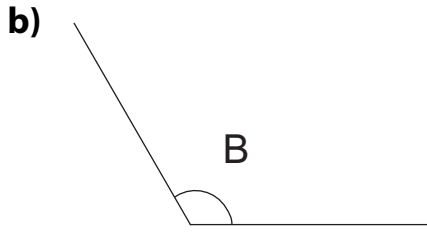
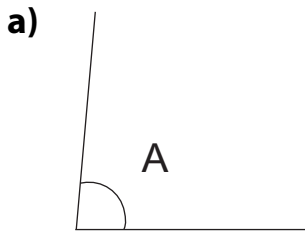


c)



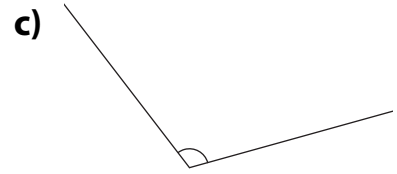
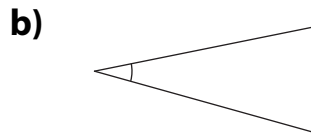
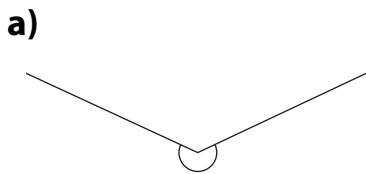
Practice

1. Measure each angle. Record the measurements in the chart.



| Angle | Measure |
|-------|---------|
| A | |
| B | |
| C | |
| D | |

2. Estimate the size of each angle.
Measure and record each angle size.



Estimate: _____

Estimate: _____

Estimate: _____

Measure: _____

Measure: _____

Measure: _____

3. Name each angle in question 2 as acute, right, obtuse, or reflex.

a) _____

b) _____

c) _____

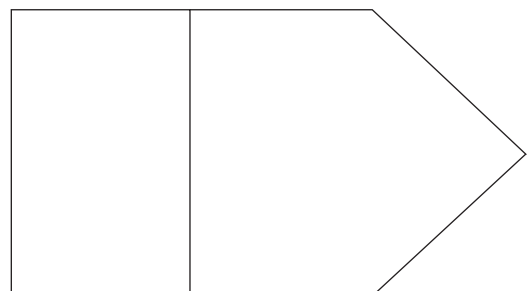
Stretch Your Thinking

How many of each kind of angle
can you find in this picture?
Mark each kind in a different colour.

a) right angle _____

b) obtuse angle _____

c) acute angle _____



Drawing Angles



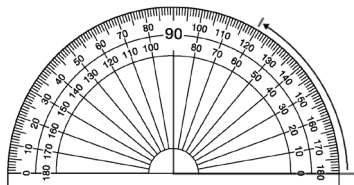
Quick Review

- We use a ruler and a protractor to construct an angle with a given measure.

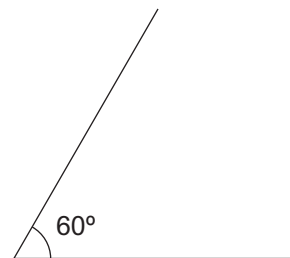
Here is how to construct a 60° angle.



Draw one arm of the angle.



Place the centre of the protractor at one end of the arm so that the base line of the protractor lies along the arm. Find 60° and make a mark.



Remove the protractor. Draw the arm. Label the angle.

Try These

- Use a ruler and protractor.
Draw an obtuse angle with each measure.

a) 135°

b) 100°

c) 167°

- Use only a ruler. Estimate to draw each angle.

a) 75°

b) 145°

c) 50°

Practice

1. Use a ruler and protractor.
Draw an acute angle with each measure.

a) 55°

b) 20°

c) 38°

2. Use only a ruler. Estimate to draw each angle.

a) 90°

b) 80°

c) 150°

Stretch Your Thinking

Without using a protractor,
draw an angle that is close to 45° .
Explain how you did it.
