

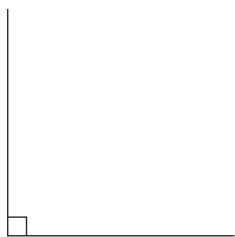
# Naming Angles



## Quick Review

An angle is formed when 2 lines meet.

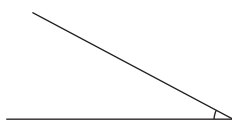
**right angle**



**straight angle**



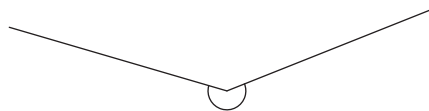
An **acute angle** is less than a right angle.



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



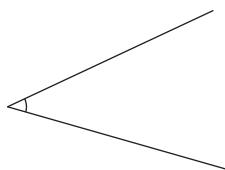
A **reflex angle** is greater than a straight angle.



## Try These

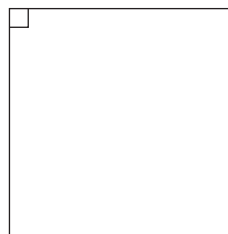
1. Name each angle as a right, acute, obtuse, straight, or reflex angle.

a)



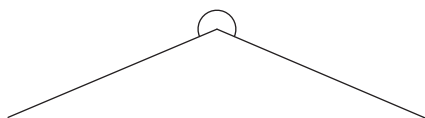
\_\_\_\_\_

b)



\_\_\_\_\_

c)



\_\_\_\_\_

d)



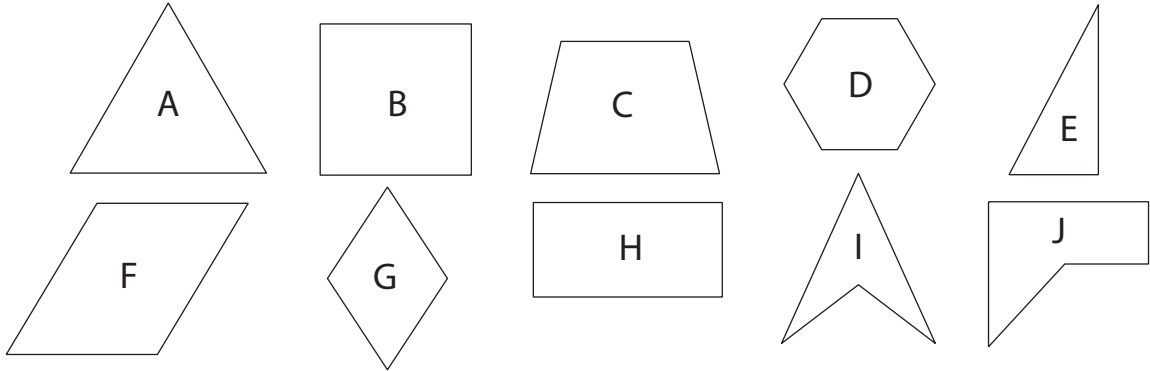
\_\_\_\_\_

## Practice

1. List the shapes with:

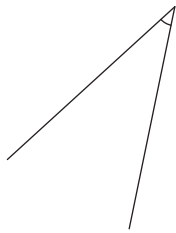
a) a right angle \_\_\_\_\_ b) an obtuse angle \_\_\_\_\_

c) an acute angle \_\_\_\_\_ d) a reflex angle \_\_\_\_\_



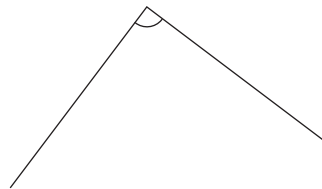
2. Name each angle.

a)



\_\_\_\_\_

b)



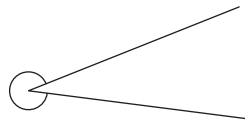
\_\_\_\_\_

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

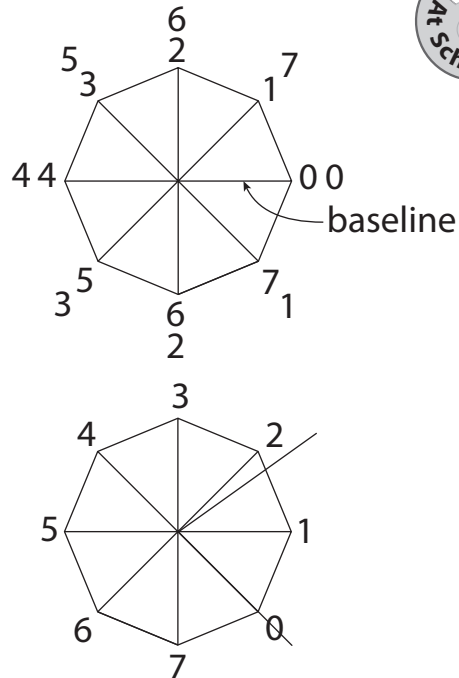
► A **protractor** measures angles.

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.

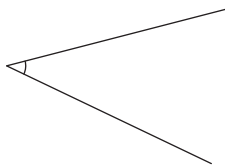


## Try These

Use an 8-unit protractor.

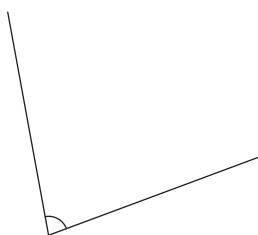
1. Use your protractor to measure each angle.

a)



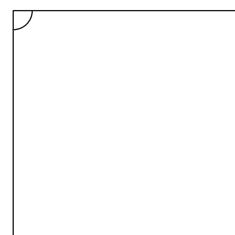
\_\_\_\_\_

b)



\_\_\_\_\_

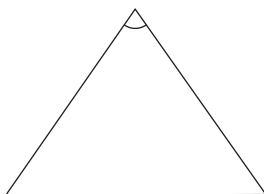
c)



\_\_\_\_\_

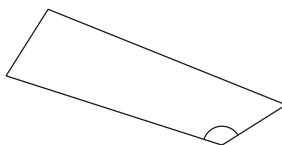
2. Use your protractor to measure the marked angle in each polygon below.

a)



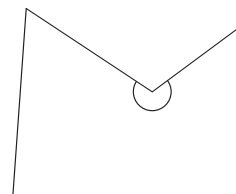
\_\_\_\_\_

b)



\_\_\_\_\_

c)

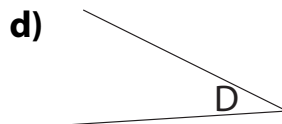
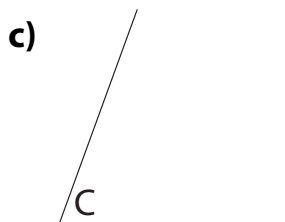
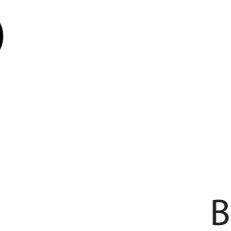
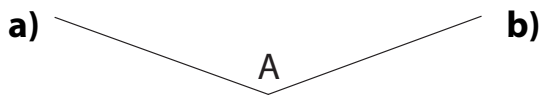


\_\_\_\_\_

## Practice

Use an 8-unit protractor.

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



| 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.

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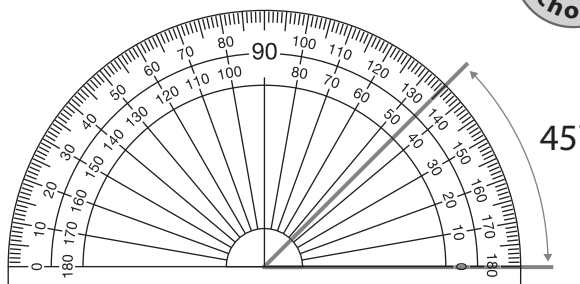
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# Measuring Angles



## Quick Review

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



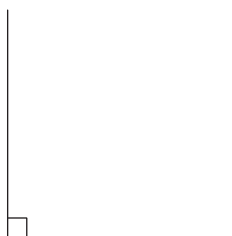
- ▶ Angles are named according to their measures in degrees.

Acute Angle



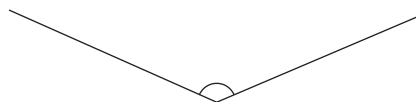
less than  $90^\circ$

Right Angle



$90^\circ$

Obtuse Angle



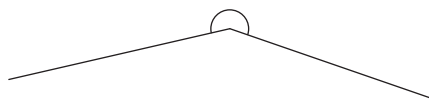
between  $90^\circ$  and  $180^\circ$

Straight Angle



$180^\circ$

Reflex Angle



between  $180^\circ$  and  $360^\circ$

## Try These

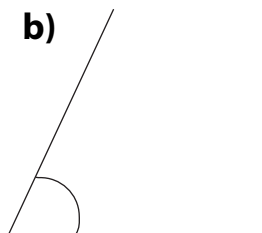
1. Use a protractor to measure each angle. Record the measurements.

a)



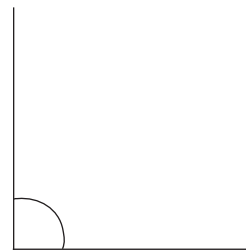
\_\_\_\_\_

b)



\_\_\_\_\_

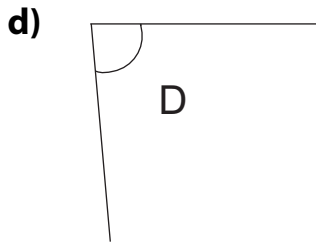
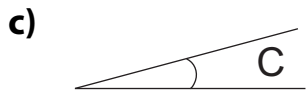
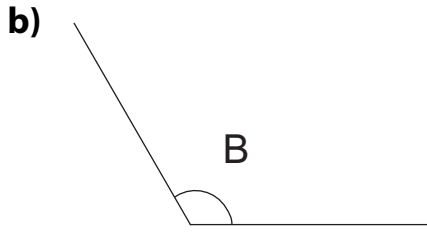
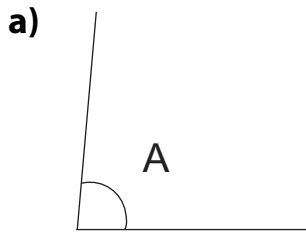
c)



\_\_\_\_\_

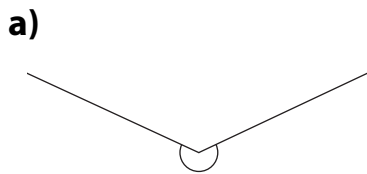
## Practice

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



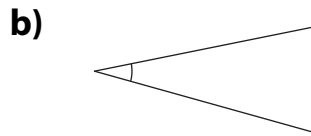
| Angle | Measure |
|-------|---------|
| A     |         |
| B     |         |
| C     |         |
| D     |         |

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



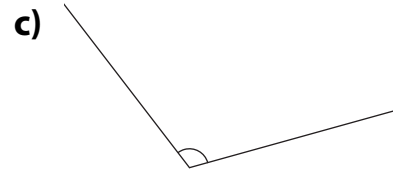
Estimate: \_\_\_\_\_

Measure: \_\_\_\_\_



Estimate: \_\_\_\_\_

Measure: \_\_\_\_\_



Estimate: \_\_\_\_\_

Measure: \_\_\_\_\_

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

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

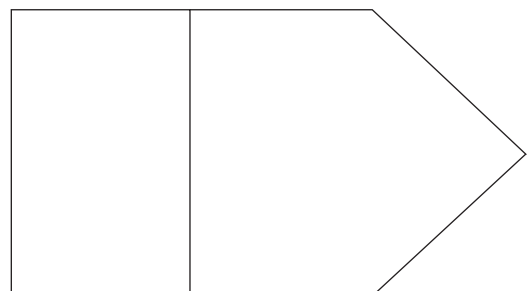
## Stretch Your Thinking

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

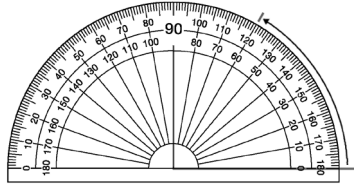


## Quick Review

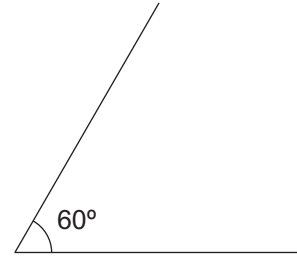
- We use a ruler and a protractor to construct an angle with a given measure.

Here is how to construct a  $60^\circ$  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  $60^\circ$  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)  $135^\circ$

b)  $100^\circ$

c)  $167^\circ$

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

a)  $75^\circ$

b)  $145^\circ$

c)  $50^\circ$

## Practice

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

a)  $55^\circ$

b)  $20^\circ$

c)  $38^\circ$

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

a)  $90^\circ$

b)  $80^\circ$

c)  $150^\circ$

## Stretch Your Thinking

Without using a protractor,  
draw an angle that is close to  $45^\circ$ .  
Explain how you did it.

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