

Learning Center  
Schoolcraft College

*JumpStart*

*Session 2*

Course-Pak

## The Beginning: Vocabulary

- A denotes a \_\_\_\_\_ which occupies space but has no dimension.

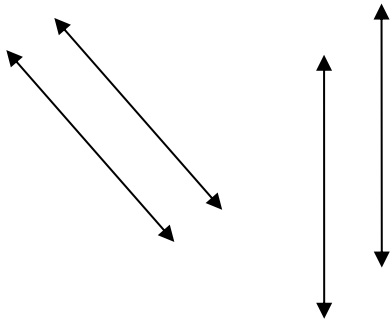
$\overleftrightarrow{AB}$  denotes a \_\_\_\_\_ which extends infinitely in both directions.

$\overrightarrow{AB}$  denotes a \_\_\_\_\_ which extends infinitely in one direction.

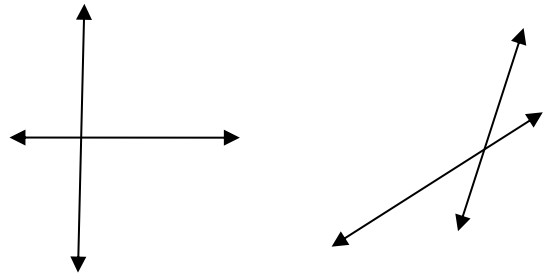
$\overline{AB}$  denotes a \_\_\_\_\_ which has a fixed length.

If you have more than one line, ray, or line segment, two things can happen:

The lines are \_\_\_\_\_  
meaning, they *never* meet/intersect.

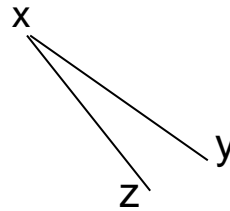
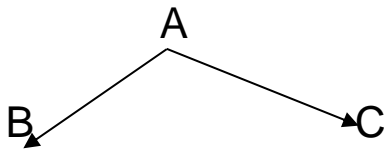


The lines are \_\_\_\_\_  
meaning they *do* meet/intersect.



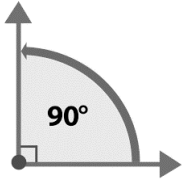
## Angles

When two lines or rays intersect, they form angles that can be named and classified.  
Naming Angles:

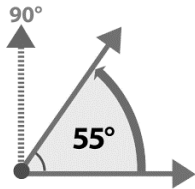


Draw angle EFG:

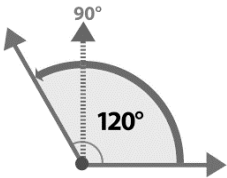
## Naming Angles cont.



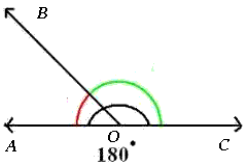
When two lines meet and form a  $90^\circ$  angle, the lines are \_\_\_\_\_  
and form a \_\_\_\_\_.



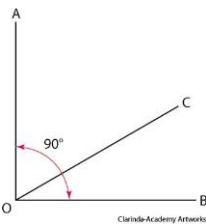
When an angle's measure is greater than  $0^\circ$  but less than  $90^\circ$  the angle is called an  
\_\_\_\_\_.



When an angle's measure is greater than  $90^\circ$  but less than  $180^\circ$  the angle is called  
an \_\_\_\_\_.



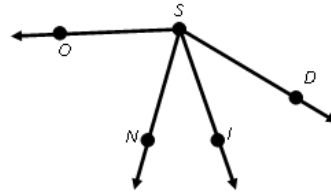
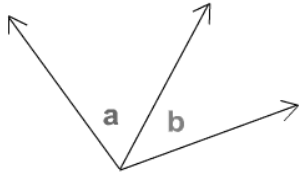
Two angles, whose sum is  $180^\circ$ , are called: \_\_\_\_\_  
\_\_\_\_\_



Two angles, whose sum is  $90^\circ$ , are called: \_\_\_\_\_

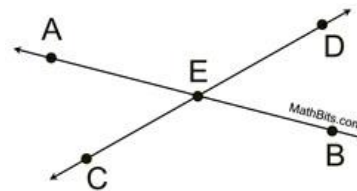
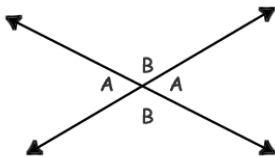
## Classifying Angles

Angles located next to each other and sharing a common side are called \_\_\_\_\_.



Angles located directly across from each other are called \_\_\_\_\_.

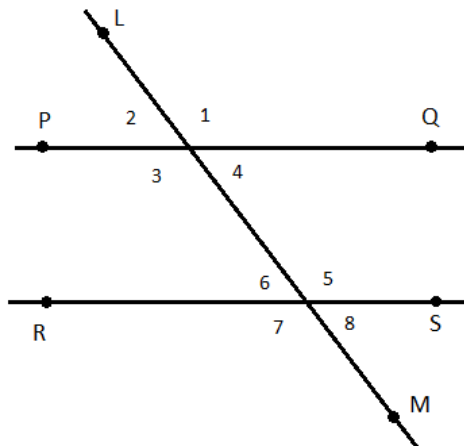
Vertical angles are \_\_\_\_\_, meaning \_\_\_\_\_.

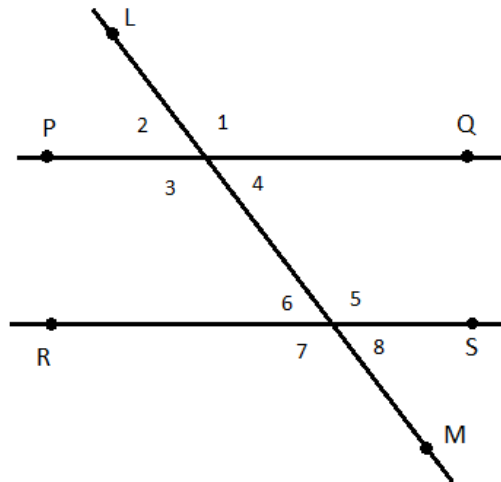


## More Special Angles

A line that intersects two parallel lines is called a \_\_\_\_\_.

These lines form special angle relationships. PQ is parallel to RS





Corresponding angles are located in the *same position* compared to the transversal.

Corresponding angles: \_\_\_\_\_

Opposite exterior angles are located outside the parallel lines on opposite sides of the transversal.

Opposite exterior angles: \_\_\_\_\_ and are \_\_\_\_\_

Opposite interior angles are located inside the parallel lines on opposite sides of the transversal.

Opposite interior angles: \_\_\_\_\_ and are \_\_\_\_\_

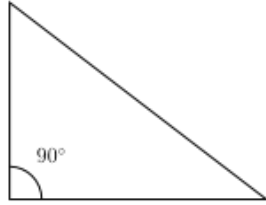
Name 2 pairs of vertical angles:

Name 2 pairs of adjacent angles:

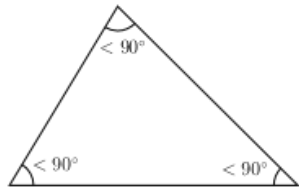
Name two pairs of supplementary angles:

# Polygons - Classifying Triangles

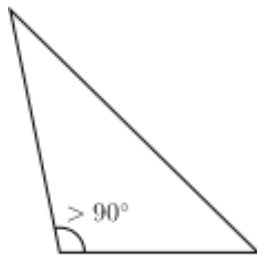
## By Angle Measure



Right Triangle \_\_\_\_\_  
\_\_\_\_\_

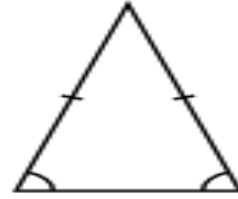


Acute Triangle \_\_\_\_\_  
\_\_\_\_\_

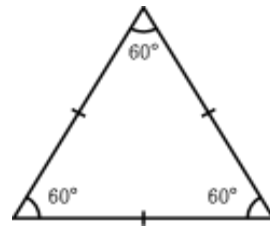


Obtuse Triangle \_\_\_\_\_  
\_\_\_\_\_

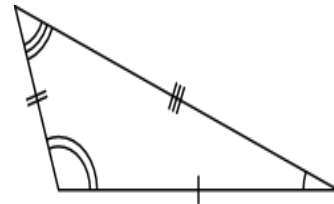
## By Side Measure



Isosceles Triangle \_\_\_\_\_  
\_\_\_\_\_



Equilateral Triangle \_\_\_\_\_  
\_\_\_\_\_



Scalene Triangle \_\_\_\_\_  
\_\_\_\_\_

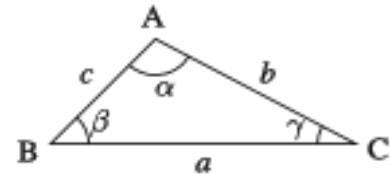
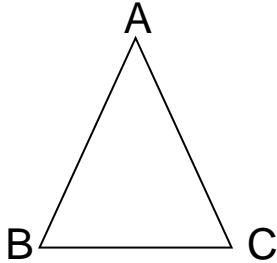
## Properties of Triangles

A triangle has \_\_\_\_\_ sides, which form \_\_\_\_\_

The sum of these angles must always add up to \_\_\_\_\_

$\sphericalangle A + \sphericalangle B + \sphericalangle C =$  \_\_\_\_\_

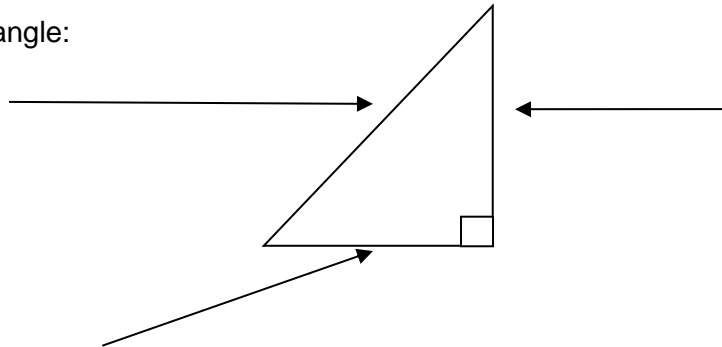
$\sphericalangle \alpha + \sphericalangle \beta + \sphericalangle \gamma =$  \_\_\_\_\_



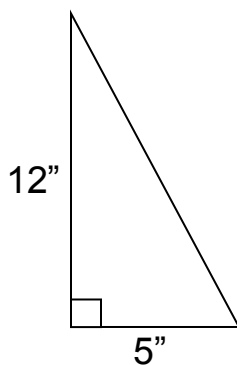
## The Pythagorean Theorem $a^2 + b^2 = c^2$

The Pythagorean Theorem is used to find the length of a side of \_\_\_\_\_  
*Warning: This can only be used with right triangles.*

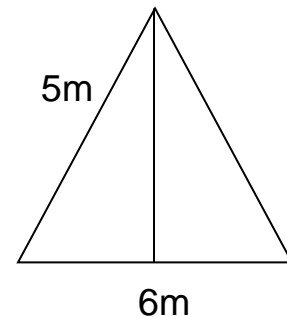
Parts of a right triangle:



Find the length of the hypotenuse



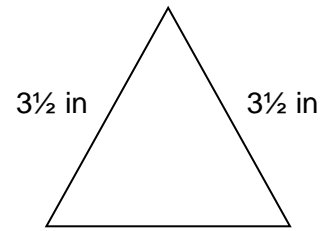
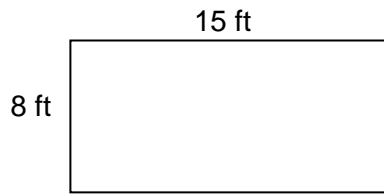
Find the height of the triangle



**Perimeter**

Perimeter refers to the \_\_\_\_\_

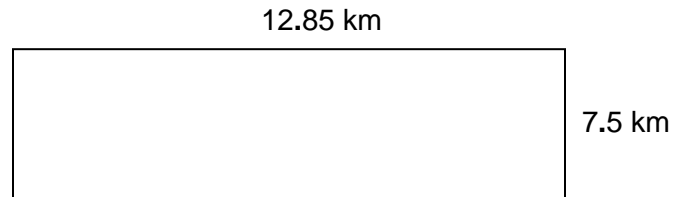
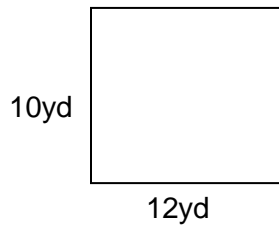
Think: \_\_\_\_\_ Perimeter of a polygon=\_\_\_\_\_

**AREA**

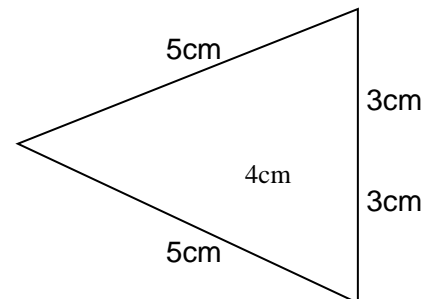
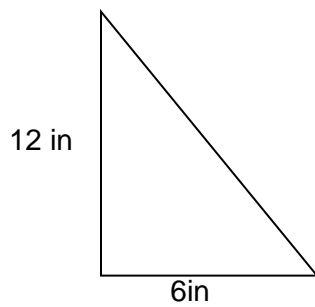
Area measures the \_\_\_\_\_ of a geometric figure. Think: \_\_\_\_\_

Area is ALWAYS expressed in \_\_\_\_\_

**Area of a square or rectangle = \_\_\_\_\_**

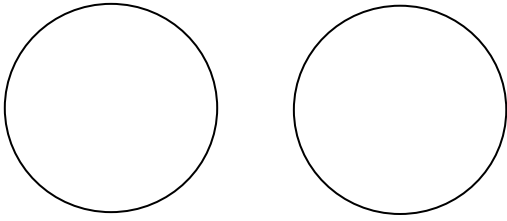


**Area of a triangle= \_\_\_\_\_**



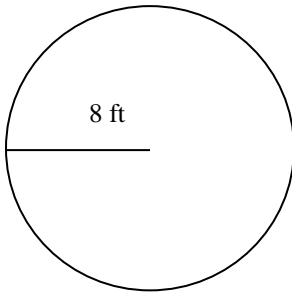


**Circumference, Area, Circles & that thing they call pi**



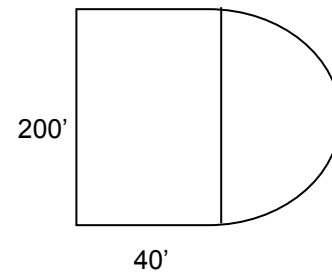
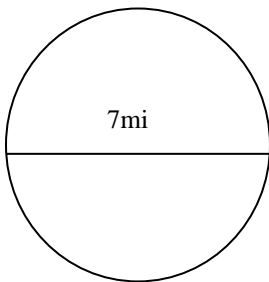
$\pi$  is the ratio of a circle's \_\_\_\_\_  
 $\pi \approx$

**Circumference (perimeter) of a circle=\_\_\_\_\_**

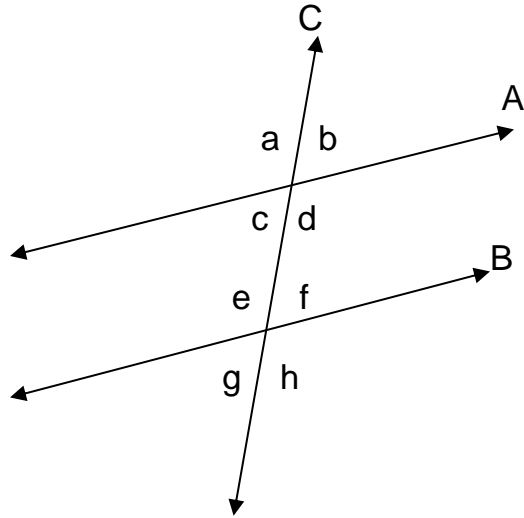


Find the circumference of a circle  
 with diameter  $\frac{1}{4}$  mm.

**Area of a circle=\_\_\_\_\_**



Practice:  
 $A \parallel B$  and cut by transversal  $C$



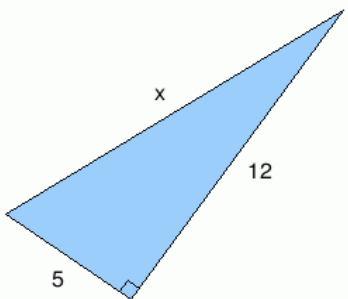
Find each angle measure and state your proof.

If  $\angle a = 102^\circ$ , find the measure of the following angles and give proof for your answer.

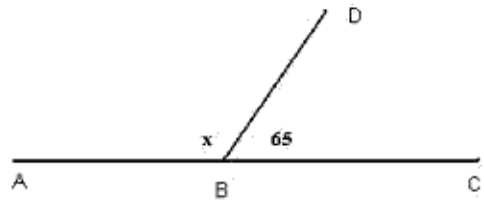
$\angle b =$                        $\angle c =$                        $\angle d =$                        $\angle e =$

$\angle f =$                        $\angle g =$                        $\angle h =$

Find the hypotenuse of the right triangle



Find the measure of the angle



**Answers to practice:**

If  $\angle a = 102^\circ$ , find the measure of the following angles and give proof for your answer.

$\angle b = 78$

$\angle c = 78$

$\angle d = 102$

$\angle e = 78$

$\angle f = 102$

$\angle g = 102$

$\angle h = 78$

