

Learning Center
Schoolcraft College

Jump Start Session 3

The Beginning: Vocabulary

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

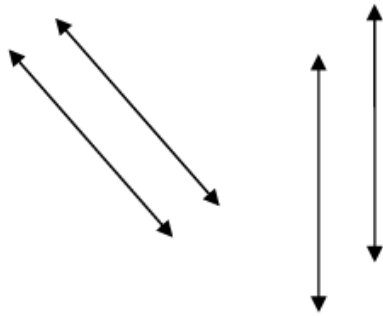
$\overleftrightarrow{AB}$ denotes a _____ which extends infinitely in both directions.

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

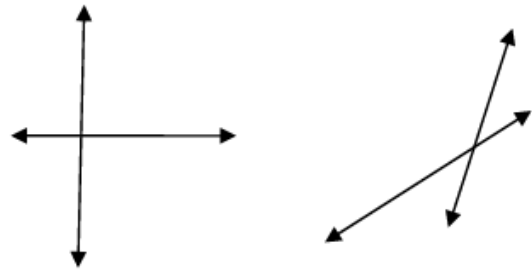
$\overline{AB}$ denotes a _____ which has a fixed length.

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

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

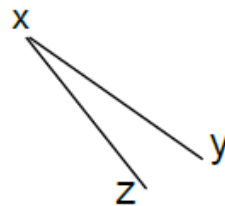
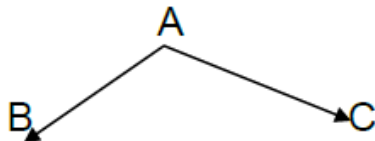


The lines are _____,
meaning they *do* meet/intersect.



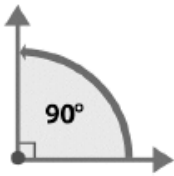
Angles

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

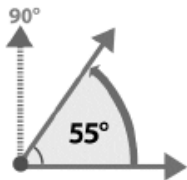


Draw angle EFG:

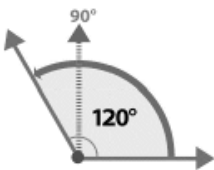
Naming Angles cont.



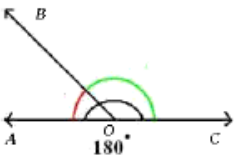
When two lines meet and form a 90° angle, the lines are _____
and form a _____.



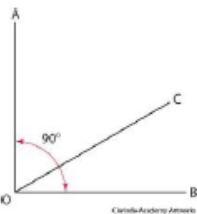
When an angle's measure is greater than 0° but less than 90° the angle is called an _____.



When an angle's measure is greater than 90° but less than 180° the angle is called an _____.



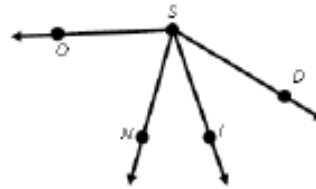
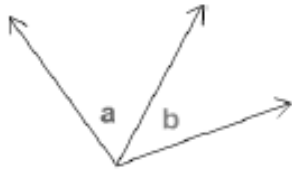
Two angles, whose sum is 180° , are called: _____



Two angles, whose sum is 90° , are called: _____

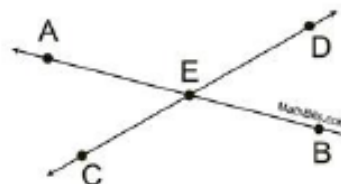
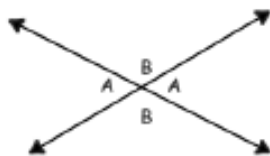
Classifying Angles

Angles located next to each other and sharing a common side are called _____



Angles located directly across from each other are called _____.

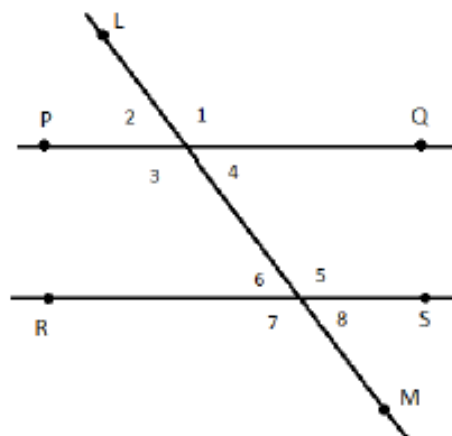
Vertical angles are _____, meaning _____.

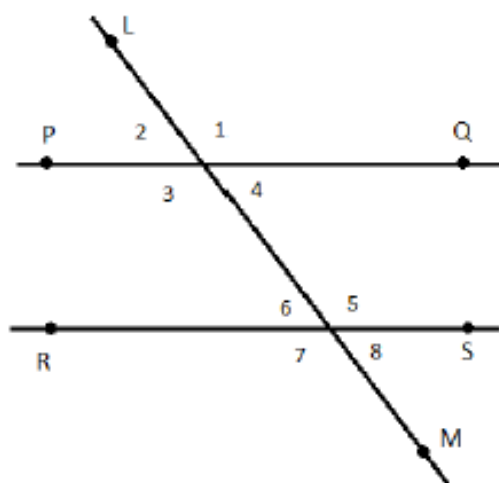


More Special Angles

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

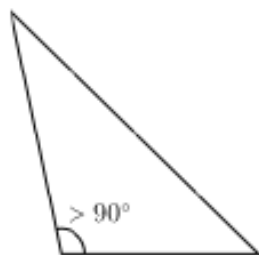
By Angle Measure



Right Triangle _____

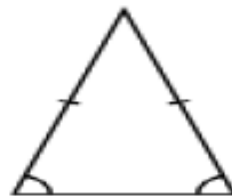


Acute Triangle _____

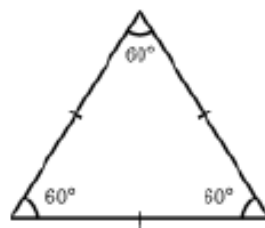


Obtuse Triangle _____

By Side Measure



Isosceles Triangle _____



Equilateral Triangle _____



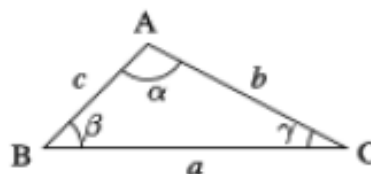
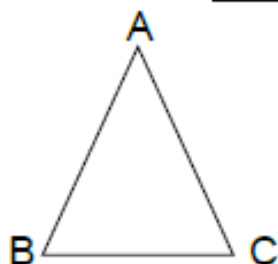
Scalene Triangle _____

Properties of Triangles

A triangle has _____ sides, which form _____

The sum of these angles must always add up to _____

$\angle A + \angle B + \angle C =$ _____ $\angle \alpha + \angle \beta + \angle \gamma =$ _____

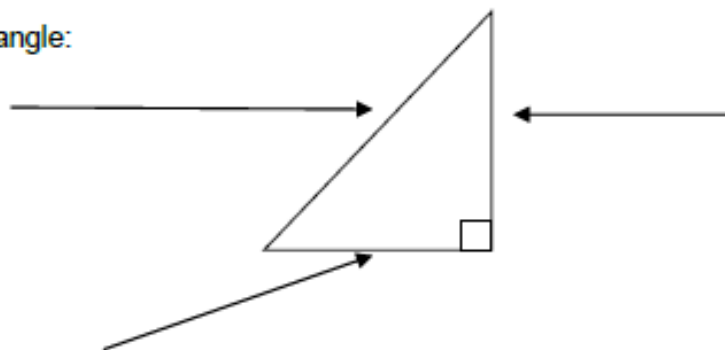


The Pythagorean Theorem $a^2 + b^2 = c^2$

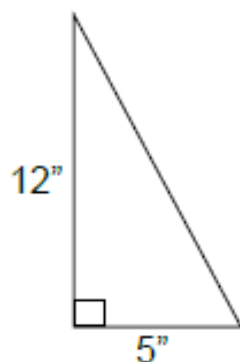
The Pythagorean Theorem is used to find the length of a side of _____

Warning: This can only be used with right triangles.

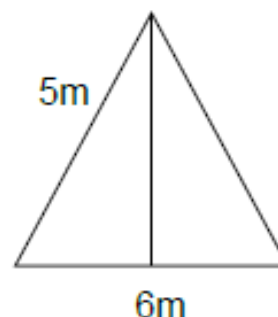
Parts of a right triangle:



Find the length of the hypotenuse



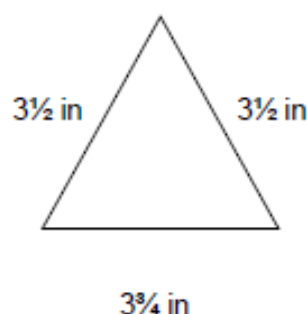
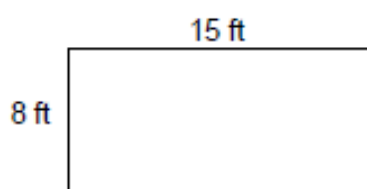
Find the height of the triangle



Perimeter

Perimeter refers to the _____

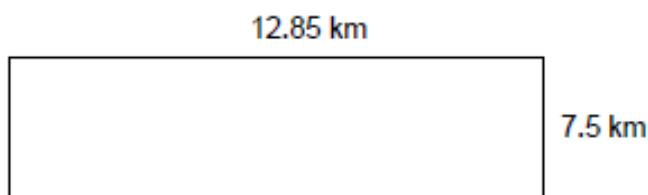
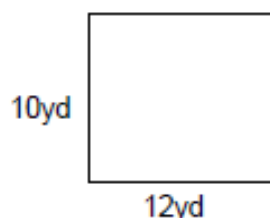
Think: _____ Perimeter of a polygon= _____

**AREA**

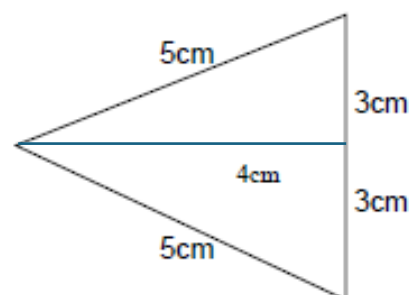
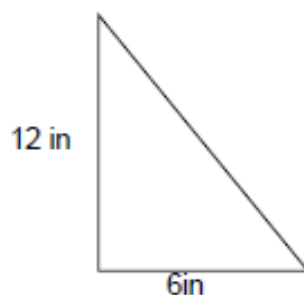
Area measures the _____ of a geometric figure. Think: _____

Area is ALWAYS expressed in _____

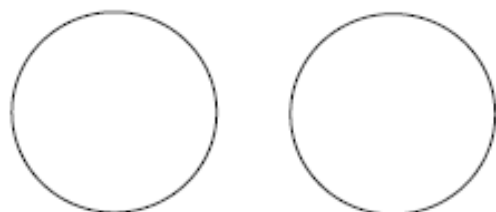
Area of a square or rectangle = _____



Area of a triangle= _____



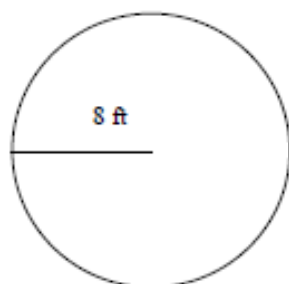
Circumference, Area, Circles & *that thing they call pi*



π is the ratio of a circle's _____

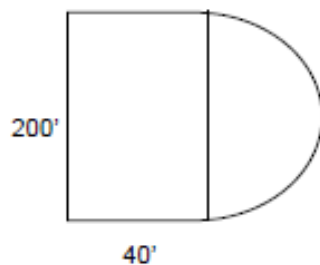
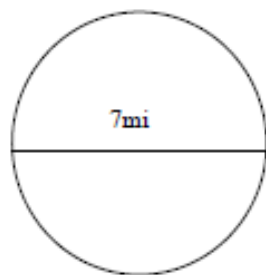
$\pi \approx$

Circumference (perimeter) of a circle=_____



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

Area of a circle=_____



Converting Units (Dimensional Analysis)

One way of converting units relies on the rules for equivalent fractions. We can _____ by _____ to change the appearance of a fraction without changing the value.

Ex: Convert $\frac{5}{8}$ to 24ths

We can use this to change the units of a measurement, if we know the relationship between the units.

Ex: Convert 12 ft to yards

Ex: Convert 180 pounds to kg (Note: 1 kg = 2.2 pounds)

Ex: Convert 5 ft² to in²

Ex: Convert 50 mph to m/s (Note: 1 mile = 1.609 km)