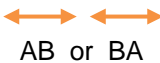


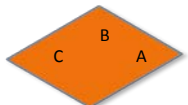


The term geometry is derived from the two Greek words *geo* and *metron*. It means "to measure the Earth." The great irony is that the most basic building block in geometry, The Point, has no measurement at all.

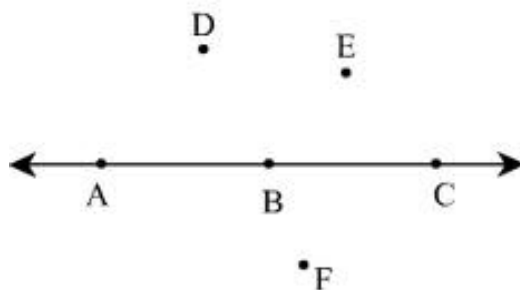
Let's begin by looking at points that must exist in order to have lines and planes, as lines and planes are made up of an infinite number of points.

The five elements below all relate to each other in some way. For the most part this will be useful for those needing help with plane figures, which are flat and have one or two dimensions. If you find these difficult to understand, look at the real life examples.

Name	Symbol	Properties	Example
Point	•A	<ul style="list-style-type: none"> No size or dimension Definite location 	Point of a pen
Line		<ul style="list-style-type: none"> 1-Dimensional Infinite points in opposite directions 	Highway without ends Corridor without terminations
Ray		<ul style="list-style-type: none"> 1-dimensional Has only 1 endpoint that is part of a line Infinite points in one direction 	Laser stream
Line segment		<ul style="list-style-type: none"> 1-dimensional Two endpoints Infinite set of points 	Side of a ruler
Plane	<p>Plane ABC</p> 	<ul style="list-style-type: none"> 2-dimensional flat surface Infinite points in all directions 	Floor without boundaries

One way you can see how points and lines are related is to notice whether points lie in a straight line.

Collinear points are points that are all on the same line. Non-collinear points are not all on the same line. In the example below, points **A**, **B** and **C** are collinear and points **D**, **E** and **F** are non-collinear.

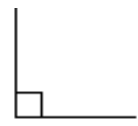


ANGLES

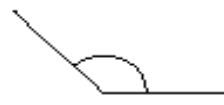
Acute angle
 $< 90^\circ$



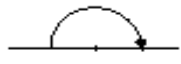
Right angle
 $= 90^\circ$



Obtuse angle
between 90° and 180°



Straight line
 $= 180^\circ$



Reflex angle
 $> 180^\circ$



Complete turn
 $= 360^\circ$

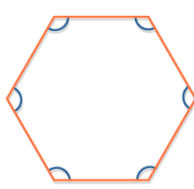


OTHER TYPES OF ANGLES

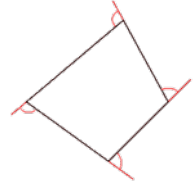
Vertical opposite angles are equal



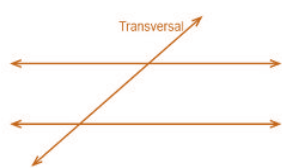
Interior angles



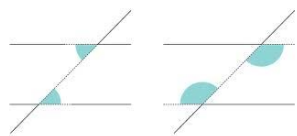
Exterior angles



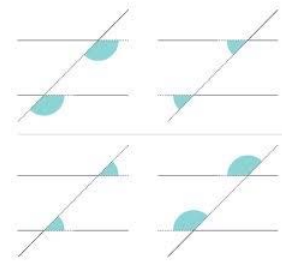
A **transversal** is a line that crosses two other lines. If the lines crossed by the transversal are parallel, then special angle properties result.



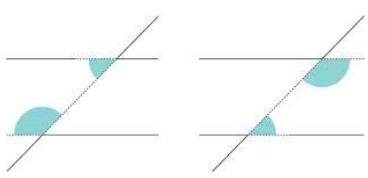
Alternate angles are equal



Corresponding angles are equal



Co-interior angles are supplementary, meaning they add up to 180°



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