

SM2 VOCABULARY 7-1 (Geometry Review)

Geometry (from the Ancient Greek: geo- "earth", -metron "measurement") is a branch of mathematics concerned with questions of shape, size, relative position of figures, and the properties of space.

Point: the smallest "building block" of geometry.

They are labeled with capital letters.

They have no size (they are infinitely small).



Line: is a collection of points that "line up" or are "straight".



Two Points: define the location and the direction of a line.



Lines are represented by two capital letters (for two points that are on the line) with a double arrow above the two letters \overleftrightarrow{AB} or by a single lower case letter (Line l)

Line Segment: is made up of 2 endpoints and all the points between them that are colinear with the end points.

Line segments are represented by two capital letters (for the two end points of the line segment) with a dash above the two letters. \overline{AB}



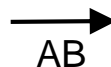
Length of a line segment is represented by two capital letters (for two end points) with no dash above the two letters. AB

SM2 VOCABULARY 7-1 (continued)

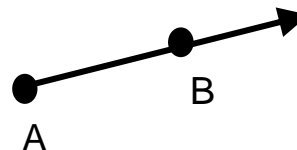
Ray Is one half of a line. It has an endpoint and a direction.



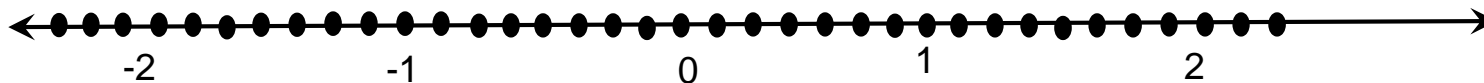
Rays are represented by two capital letters (for the end point and one other point of the ray) with a single direction arrow above the two letters.



Two Points: define the location and the direction of a ray.



Number line. A line (a set of colinear points), where each point has been assigned a number. The numbers become larger from left to right.



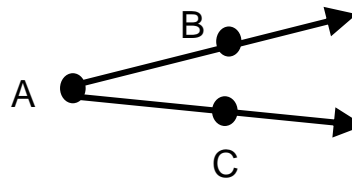
There are infinitely many **colinear** points between two points, therefore there are infinitely many numbers between two numbers on a number line.

X-Y Plane: infinitely many horizontal and vertical number lines where each point of intersection is a unique point with a location given by the numerical value of each number line where the two lines cross.

Angle: Is made of two rays with a common endpoint.

$\angle BAC$

$\angle CAB$



SM2 VOCABULARY 7-1 (continued)

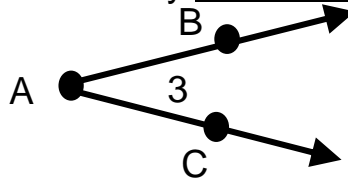
Angles can be represented symbolically three ways.

(1) angle symbol followed by one letter representing the vertex of the angle. (We can use this only if there is only one angle with that vertex). $\angle A$

(2) angle symbol followed by three letters representing a point on one side of the angle, the vertex (2nd letter), and a point on the other side of the angle.

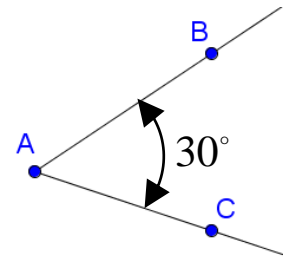
$\angle BAC$
 $\angle CAB$

(3) Using an angle symbol followed by one number that is a label and NOT the measure of the angle. $\angle 3$



Measure of an angle: is the portion of a whole circle that the angle “subtends.” Since the measure of a whole circle is 360, $\frac{1}{4}$ of a circle would be a 90 degree angle. We can also think about the measure of an angle as how wide the sides are spread apart.

$$m\angle A = 30^\circ$$



Theta: “ Θ ” \rightarrow a Greek letter used for the measure of an unknown angle.

Angles are categorized based upon their measures.

(1) Acute angle: an angle whose measure is: $0^\circ < \Theta < 90^\circ$

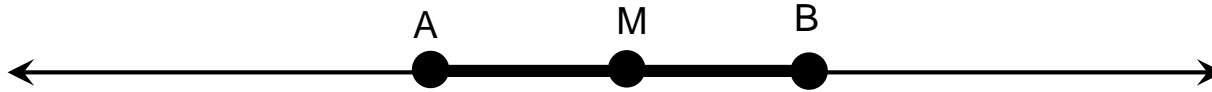
(2) Right Angle: an angle whose measure is: $\Theta = 90^\circ$

(3) Obtuse angle: an angle whose measure is: $90 < \Theta < 180$

(4) Straight angle: an angle whose measure is: $\Theta = 180$

SM2 VOCABULARY 7-1 (continued)

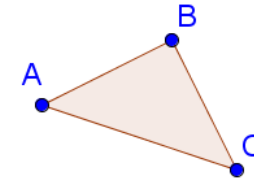
midpoint A point on a line segment that is half-way between the endpoints of the segment.



We can find the midpoint between any two numbers on a number line by averaging them. $\frac{a+b}{2}$

triangle Three non-collinear segments that intersect at their endpoints.

A triangle is made up of the points that make up the sides and NOT the interior of the triangle.



Triangles are represented by the triangle symbol followed by the three letters representing the end points of the segments (each of which is called a vertex).

$\triangle ABC$ $\triangle BCA$ $\triangle CAB$

Protractor: a tool used to measure an angle is degrees.

