Geometry Handbook



Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**What’s in an Angle?**

 A

 **ray**

B

 C

 **vertex** **ray**

angle **ABC** is shown: It must be written in ***ALL*** capital letters…

 **ABC** (vertex always in the middle) ***or***

 **CBA** (vertex always in the middle) ***or***

 **B** (use only the vertex)

**Types of Angles**

**Acute Angles:** an angle that measures ***less than*** ***90°***.

**Obtuse Angle:** an angle that measures ***greater*** ***than*** ***90°*** but ***less than 180°.***

**Right Angle:** an angle that measures ***exactly 90°*** (forms an “L”.

**Straight Angle:** an angle that measures ***exactly 180°*** (forms a straight line).

**Reflex Angle:** an angle that measures ***greater than 180***° but ***less than 360°***.**\***HINT\* measure the inside angle first, then subtract from 360°

**Vertical & Adjacent Angles**

***Vertical Angles:*** Angles that are “**opposite**” of each other. ***Vertical angles have equal measures***. Angles 1 and 3 are vertical and Angles 2 and 4 are vertical.

 2

 1 3

 4

***Adjacent Angles:*** Angles that are “**next to each other**”. These angles are “***next door neighbors and share a fence***”. Angles are 1 and 2 are adjacent and angles 2 and 3 are adjacent.

 2

 1 3

 4

**Types of Triangles**

 All 3 angles of a triangle add up to **180°**

***Equilateral Triangle:*** All sides are equal in length and all three angles have the same measure.

***Isosceles Triangle:*** At least two sides are equal in length and at least two angles have the same measure.

***Scalene Triangle:*** All three sides are different lengths and all three angles have different measures.

**Faces, Vertices & Edges**

 Vertex (8)

Face (6)

 Edge (12)

***Face:*** A flat surface on a 3-Dimensional shape

***Vertex:*** A point where 2 sides or 3 or more

 edges meet

***Edge:*** A line segment where 2 faces meet

 (Vertices + Faces) – 2 = # of Edges

**Solids**



Prism: A solid with two congruent parallel bases and faces that are parallelograms



Cylinder: A solid with two circular bases that are congruent and parallel



Cone: A solid with one circular base. The points of this circle are joined to one point outside the base.



Pyramid: A solid with a base that is a polygon. The edges of the base are joined to a point outside the base.