



Complete the following assignment on your own.  
Due A Day: October 4<sup>th</sup> and B Day: October 5<sup>th</sup>

### Research Euclidean and Non-Euclidean Geometry

Go the [www.heritagegeometry.weebly.com](http://www.heritagegeometry.weebly.com) and watch the two videos in Unit 2A/Mini-Research Project.  
Write 2-3 sentences to define the terms below and make sure to include similarities and differences.

Euclidean Geometry (this is the type of Geometry we are studying):

Non- Euclidean Geometry

Watch the videos on Spherical Geometry (Download Videos from teacher) and answer the following questions

Do parallel lines exist on a sphere? \_\_\_\_\_

Do perpendicular lines exist on a sphere? \_\_\_\_\_

What is the sum of the angles in a triangle on a sphere? \_\_\_\_\_

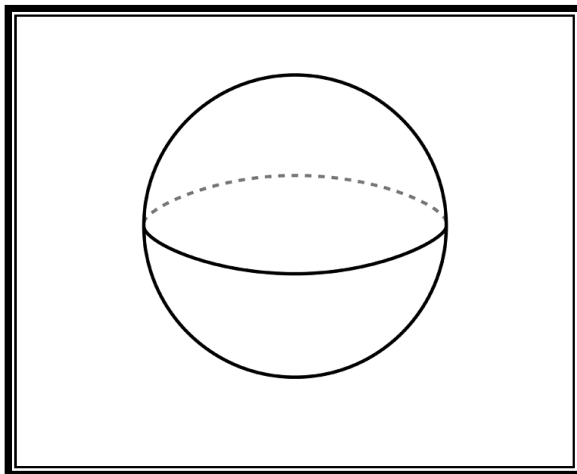
Does Pythagorean Theorem hold true on a sphere? \_\_\_\_\_

Another name for the equator is \_\_\_\_\_

All lines of longitude are \_\_\_\_\_ to the great circle.

Draw a triangle on the sphere to support your answer

On the diagram below draw and label the following (great circle, line of longitude, line of latitude) include any markings if they are necessary.



What are the main differences between spherical geometry and the geometry we do in class? (List at least 3)

- 1.
- 2.
- 3.

List two uses for spherical geometry including any professions that would use spherical geometry.

- 1.
- 2.

## Other Types of Geometry

Research other types of Geometry and write a brief description of one. Include the similarities and or differences to the Geometry we do in class and include uses for it in the real world. You may draw an example for part of your answer.

(Google: *Non-Euclidean Geometry*)