Name: _____**Date:**_____

Spherical Geometry and Trigonometry Exam

Directions: Answer the following questions. Show all work for full credit.

1. State in your own words the definition of a sphere.

2. Finish the following analogy: Euclidean geometry is to Spherical geometry as a line is to a _____.

3. Is the parallel postulate in Euclidean geometry also true in Spherical geometry? Why or why not?

4. Name one unique figure in spherical geometry that is not found in Euclidean geometry. Accurately describe the figure.

5. Name at least two real life applications of spherical geometry.

6. Describe how to measure the length of a segment in spherical geometry.

7. What is the largest possible interior angle sum or a spherical triangle? How do you know?

8. Is it possible to have a spherical triangle with three right angles? If so sketch one. If not, describe why this would be impossible.

9. Given the following information, find the measurements of Angles B and C (round to the nearest degree):
Angle C = 90°
Side a = 45°
Side b = 31°
Side c = 53°

10. What is the distance from Athens, Greece (38°N 23°E) to Athens, Georgia, USA (34°N 83°W) given that 1° = 69.2 mi?