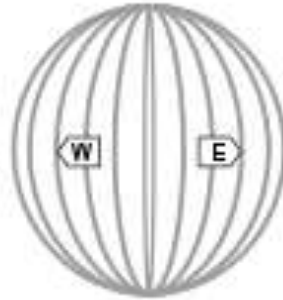
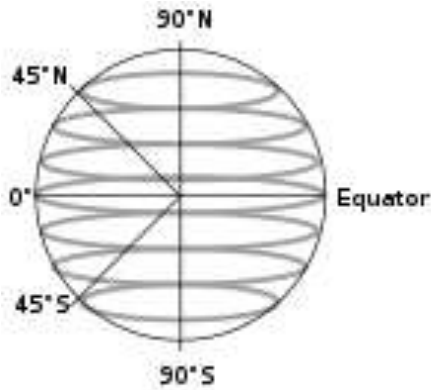


AGR 1515 Final Practical Exam

Name: _____

1. Identify each as either **longitude** lines or **latitude** lines.



2. Briefly explain the concept of triangulation. Include how many satellites need to be in view to get an accurate position.

3. Given the following coordinates, identify the hemispheres (circle the answer).

Latitude: 45.47253°, Longitude: -76.66193°

Northern or **Southern** Hemisphere

Eastern or **Western** Hemisphere

4. Identify the targets as either Precise, Accurate, or Both (Circle your response).



Precise, Accurate or Both



Precise, Accurate or Both

5. What is a requirement for a functional RTK system?

6. What accuracy can be achieved from an RTK system?

7. What are some sources of error that can be found in GPS systems? Identify at least 3.

8.

Which of the following is a true statement about NDVI calculation?

- A) NDVI calculation uses infrared and red light to measure the amount of vegetation in an area.
- B) NDVI calculation uses green and infrared light to measure the amount of vegetation in an area.
- C) NDVI calculation uses infrared and blue light to measure the amount of vegetation in an area.
- D) NDVI calculation uses red and green light to measure the amount of vegetation in an area.

9. Write out the calculation of NDVI.

10. What does NDVI tell us about plants?

11. What is one factor that might be used to optimize an AB line?

12. Which of the following is a true statement about longitude and latitude?

A) Longitude is the angular distance east or west of the Prime Meridian, while latitude is the angular distance north or south of the Equator.

B) Longitude is the angular distance north or south of the Equator, while latitude is the angular distance east or west of the Prime Meridian.

C) Longitude is the angular distance east or west of the Equator, while latitude is the angular distance north or south of the Prime Meridian.

D) Longitude is the angular distance north or south of the Prime Meridian, while latitude is the angular distance east or west of the Equator.

13. Use the following image of the Rhodes State College area to complete the following tasks.



- a. Use Google Earth, Google Earth Online, or similar to create a boundary of the “D1” field, as seen in the above photo.
- b. Export this boundary and import it into AgLeader SMS under any project and name the field “D1” and a grower and farm of your choice.
- c. Display this boundary on a new map.
- d. Given the following parameters, use this boundary to create a soil sampling layer.
 - i. 200 x 200 foot **grids**
 - ii. Merge polygons smaller than 40%
- e. Given the following parameters, use this boundary to create a guidance layer.
 - i. Swath Width = 20 feet
 - ii. Closed Headlands with 3 passes, with start in N.E. Corner and start direction of East-West
 - iii. Optimize Heading for Fewest Passes, AB Line Start Position = N.E. Corner