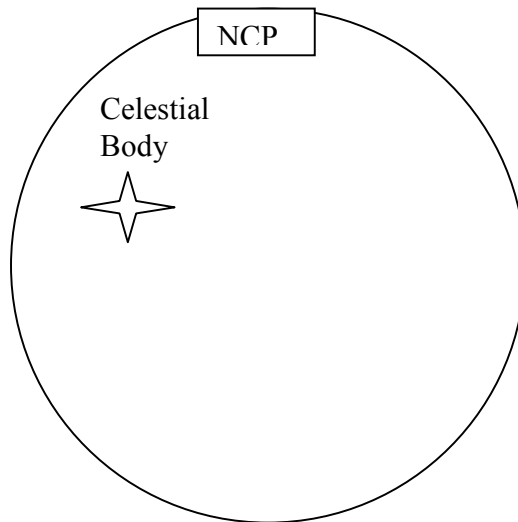


## PW2 REVIEW TEST

1. If the observer and the sun are both in the northern hemisphere, with the observer closer to the equator, how is latitude calculated at LAN?
2. TRUE/FALSE LAT by Polaris only works in the Northern hemisphere?
3. What are the parameters for sending out synoptics every three hours? What is the precedence code?
4. Select 4 pieces of information included on a synoptic message
5. Given the following two vertices complete the celestial triangle diagram  
**Draw and Label:**
  - a. All three sides
  - b. The meridian angle "t" .
  - c. The azimuth angle "Z"
  - d. The True Azimuth angle "Zn".
  - e. The third vertices



6. In the following table, identify the equivalent terms that correspond with the listed quantities of the terrestrial and celestial system

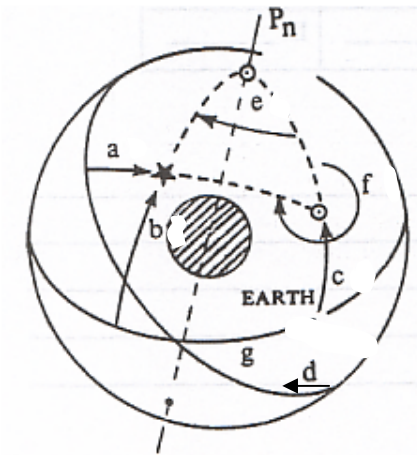
Terrestrial System	Celestial System
Equator	_____
_____	Celestial Poles
_____	GHA
Latitude	_____
_____	Hour Circle
Geographic Position	_____

7. TRUE / FALSE Declination and SHA would give you a celestial body's position.
8. TRUE / FALSE The co-latitude is the side of the navigation triangle joining the AP of the observer and the elevated pole.

9. **TRUE / FALSE** Altitude can be defined as the arc of a vertical circle between the horizon and a celestial body.

10. **TRUE / FALSE** The Navigation Triangle is located on celestial sphere.

11. Name the indicated items in the celestial coordinate system drawing below.



- a. altitude
- b. declination
- c. latitude
- d. observers horizon
- e. 't' or LHA
- f. true azimuth
- g. celestial equator

12. If the true azimuth of the sun is listed as 140T and your gyro measures 141.2T what is gyro error?

13. **TRUE/FALSE** The sun's maximum declination (N or S) is 90°?

14. In the least dangerous semi-circle, place the wind on the \_\_\_\_\_, hold course and make the best speed possible.

- a. Port bow
- b. Starboard bow
- c. Port quarter
- d. Starboard quarter

15. That part to the right of the storms track in the northern hemisphere where the wind is increased by the forward motion of the storm and the wind blows vessels toward the storm track is called the \_\_\_\_\_.

- a. Most Dangerous semi-circle
- b. Less Dangerous semi-circle

16. When is hurricane season?
17. What is the wind speed of a hurricane?
18. Name the 4 source regions of air masses.
19. Which of the two air masses listed in question 18 affect the US the most?
20. Civil twilight occurs when the sun's center is \_\_\_\_\_ degrees below the horizon.

Convert the following amount of arc to time (21 & 22).

21. 21°35'

22. 7°30'

23. According to the rules which vessel is "underway"?
  - a. A vessel at anchor
  - b. A vessel aground
  - c. A vessel not made fast to the shore
  - d. All of the above

24. What's the phrase that pays to tell you the right of way for sailing vessels?  
**SOP LOW Starboard over Port; Leeward over Windward (answer)**

25. Match the following terms with their definitions:

- |                    |   |
|--------------------|---|
| ___ Frontolysis    | a. Leading edge of a warm air that slowly displaces colder air, causing weather to form ahead of a front. |
| ___ Triple Point   | b. Cyclonic, surface convergence, leads upward to vertical motion.  |
| ___ Frontogenesis  | c. Area of severe wx at the meeting of a cold front, warm front and occluded front                        |
| ___ Low Pressure   | d. Increase in the temperature contrast across a front, causing it to strengthen.                         |
| ___ Cold Occlusion | e. The temperature contrast across a front lessens causing the front to weaken and dissipate              |
| ___ Warm Front     | f. When colder air overtakes warmer air.  |
|                    | g. Anti-cyclonic, surface divergence, leads to downward vertical motion.                                  |

26. **TRUE / FALSE** Inland Rules apply to all vessels upon inland waters of the United States and to the vessels of the United States on the Canadian waters of the Great Lakes.

27. When does Local Apparent Noon (LAN) occur?

28. Define each category of vessel:

\_\_\_ Vessel not under command.

\_\_\_ Vessel restricted in her ability to maneuver

\_\_\_ Constrained by draft

1. a vessel due to the nature of her work is restricted in her ability to maneuver as required by the rules and therefore is unable to keep out of the way of other vessels.

2. a vessel through some exceptional circumstance is unable to maneuver as required by the rules and is therefore unable to keep out of the way of other vessels

3. power driven vessel because of her draft in relation to the available depth and width of navigable water is restricted in her ability to deviate from the course she is following.

29. What is the name of the great circle perpendicular to the zenith/nadir axis?

- a. vertical circle
- b. celestial horizon
- c. celestial equator
- d. observer's meridian

30. \_\_\_\_\_ is the angle on the horizon from true north to the vertical circle of a body, always measured clockwise ( $0^\circ$  to  $360^\circ$ )

- a. altitude
- b. hour angles
- c. principal vertical circle
- d. true azimuth