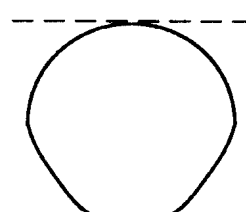
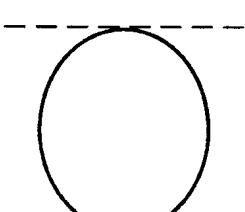
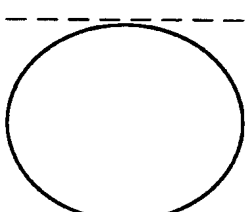


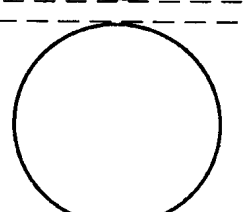
REVIEW LAT/LONG

- The Earth is slightly flattened from a perfect spherical shape because of
 - its rotation
 - the pull of the sun and moon
 - storms on the sun's surface
 - its molten core
- Which diagram most accurately shows the cross-sectional shape of the Earth?

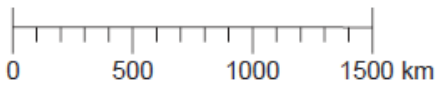
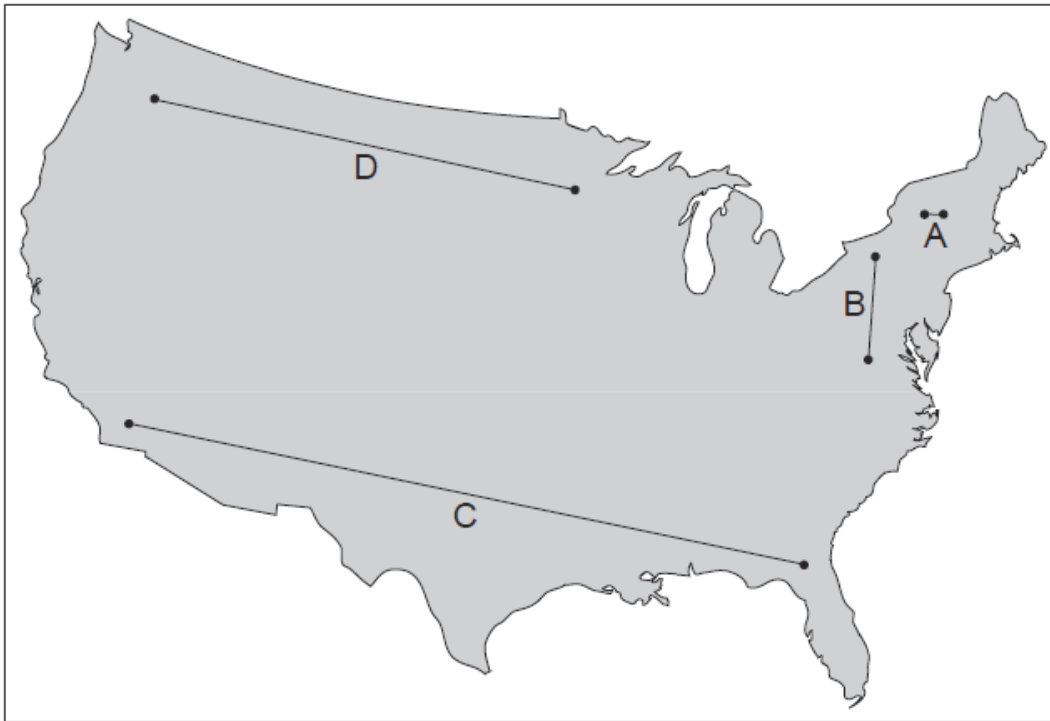
A) 

B) 

C) 

D) 
- Which object best represents a true scale model of the shape of the Earth?
 - a Ping-Pong ball
 - a football
 - an egg
 - a pear
- The best evidence that the Earth has a spherical shape is provided by
 - photographs of the Earth taken from space satellites
 - the amount of daylight received at the North Pole on June 21
 - the changing orbital speed of the Earth in its orbit around the Sun
 - the cyclic change of seasons
- An observer watching a sailing ship at sea notes that the ship appears to be "sinking" as it moves away. Which statement best explains this observation?
 - The surface of the ocean has depressions.
 - The Earth has a curved surface.
 - The Earth is rotating.
 - The Earth is revolving.
- The best evidence of the Earth's nearly spherical shape is obtained through
 - telescopic observations of other planets
 - photographs of the Earth from an orbiting satellite
 - observations of the Sun's altitude made during the day
 - observations of the Moon made during lunar eclipses
- Which list contains three major greenhouse gases found in Earth's atmosphere?
 - carbon dioxide, methane, and water vapor
 - carbon dioxide, oxygen, and nitrogen
 - hydrogen, oxygen, and methane
 - hydrogen, water vapor, and nitrogen
- In which atmospheric temperature zone does most precipitation occur?
 - thermosphere
 - mesosphere
 - stratosphere
 - troposphere
- At what approximate altitude in the atmosphere can stratospheric ozone be found?
 - 10 km
 - 30 km
 - 70 km
 - 100 km
- In which two Earth regions is oxygen the second most abundant element by volume?
 - crust and hydrosphere
 - hydrosphere and troposphere
 - troposphere and core
 - core and crust
- What is the approximate percent of oxygen by volume present in Earth's lower atmosphere?
 - 21%
 - 33%
 - 46%
 - 94%
- In which two temperature zones of the atmosphere does the temperature increase with increasing altitude?
 - troposphere and stratosphere
 - troposphere and mesosphere
 - stratosphere and thermosphere
 - mesosphere and thermosphere

13. On the map of the United States shown below, four lines have been drawn and labeled *A*, *B*, *C*, and *D*.



The length of which line best represents the distance from Earth's surface to the top of the mesosphere?

- A) *A* B) *B* C) *C* D) *D*

14. If the base of a cloud is located at an altitude of 2 kilometers and the top of the cloud is located at an altitude of 8 kilometers, this cloud is located in the

- A) troposphere, only
 B) stratosphere, only
 C) troposphere and stratosphere
 D) stratosphere and mesosphere

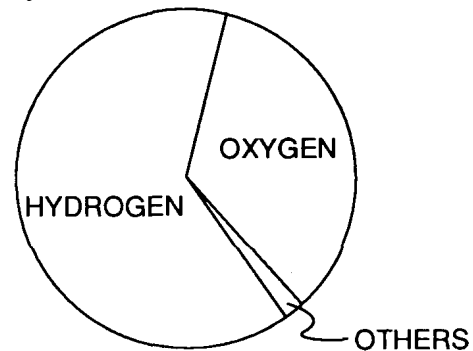
15. Earth's hydrosphere is best described as the

- A) solid outer layer of Earth
 B) liquid outer layer of Earth
 C) magma layer located below Earth's stiffer mantle
 D) gaseous layer extending several hundred kilometers from Earth into space

16. Oxygen is the most abundant element by volume in Earth's

- A) inner core B) troposphere
 C) hydrosphere D) crust

17. The graph below represents percentage of elements by volume.



This graph best represents the elements of the Earth's

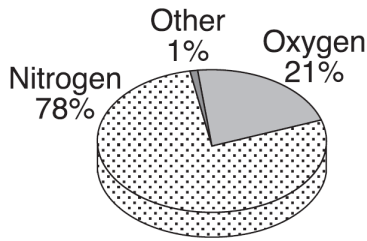
- A) lithosphere B) hydrosphere
 C) troposphere D) stratosphere

18. Which New York State city is located at $42^{\circ}39' N$ $73^{\circ}45' W$?

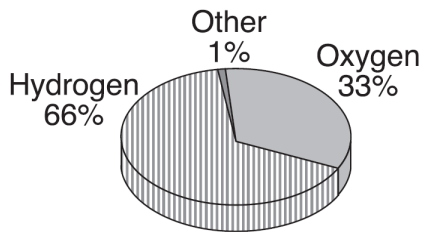
- A) Buffalo B) Albany
 C) Ithaca D) Plattsburgh

19. Which pie graph correctly shows the percentage of elements by volume in Earth's troposphere?

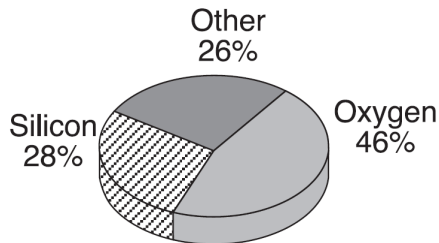
A)



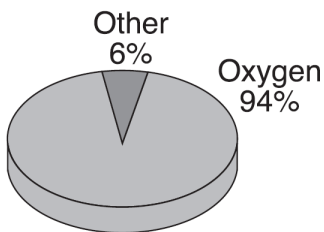
B)



C)



D)



20. Which two elements make up the greatest percentages by mass in Earth's crust?

- A) oxygen and potassium
- B) oxygen and silicon
- C) aluminum and potassium
- D) aluminum and silicon

21. Which atmospheric temperature zone is located between 8 and 32 miles above Earth's surface and contains an abundance of ozone?

- A) troposphere
- B) stratosphere
- C) mesosphere
- D) thermosphere

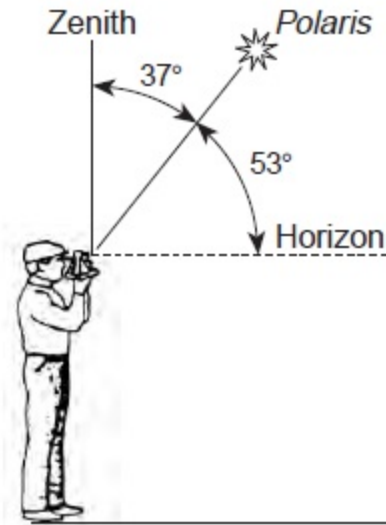
22. What is the approximate altitude of *Polaris* at Syracuse, New York?

- A) 43°
- B) 47°
- C) 76°
- D) 90°

23. New York State's highest peak, Mt. Marcy, is located at approximately

- A) 44°10' N 74°05' W
- B) 44°05' N 73°55' W
- C) 73°55' N 44°10' W
- D) 74°05' N 44°05' W

24. The diagram below represents an observer measuring the altitude of *Polaris*.



At which latitude is this observer located?

- A) 16° N
- B) 37° N
- C) 53° N
- D) 90° N

25. If an observer on Earth views *Polaris* on the horizon, the observer is located at the

- A) equator (0°)
- B) North Pole (90° N)
- C) Tropic of Cancer (23.5° N)
- D) Tropic of Capricorn (23.5° S)

26. At which New York State location would an observer measure the highest altitude of *Polaris*?

- A) New York City
- B) Slide Mountain
- C) Niagara Falls
- D) Plattsburgh

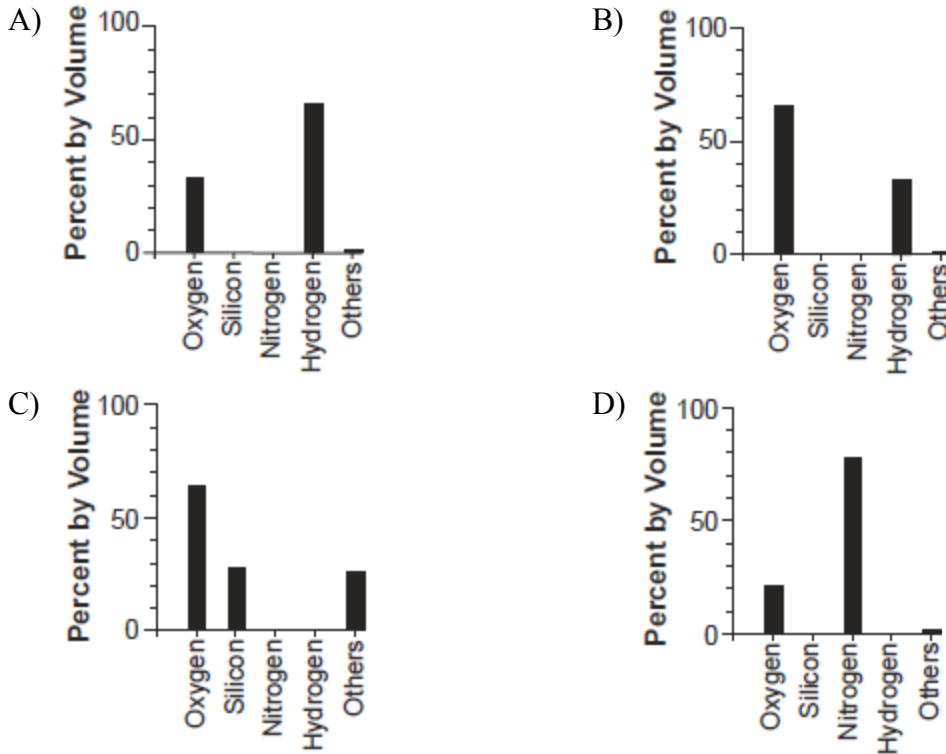
27. From Utica, New York, *Polaris* is observed at an altitude of approximately

- A) 43°
- B) 47°
- C) 75°
- D) 90°

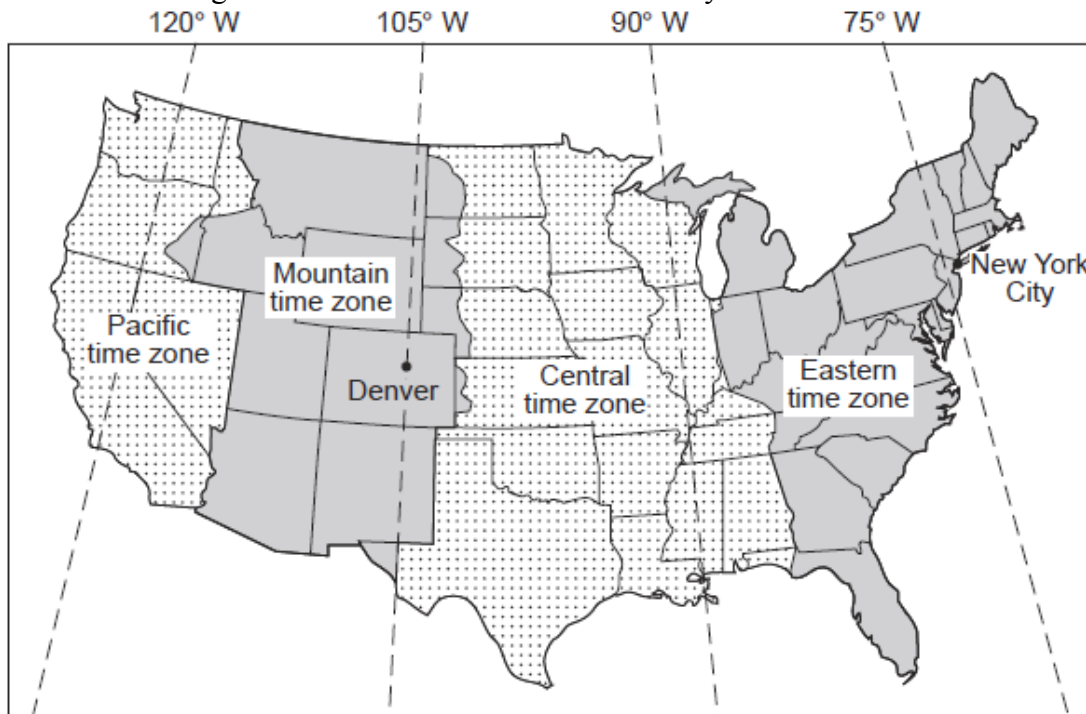
28. At which location is the altitude of *Polaris* approximately 42°?

- A) Niagara Falls
- B) Elmira
- C) Watertown
- D) Massena

29. Which bar graph best shows the percent by volume of the elements that make up Earth's hydrosphere?



30. The map below shows four major time zones of the United States. The dashed lines represent meridians of longitude. The locations of New York City and Denver are shown.



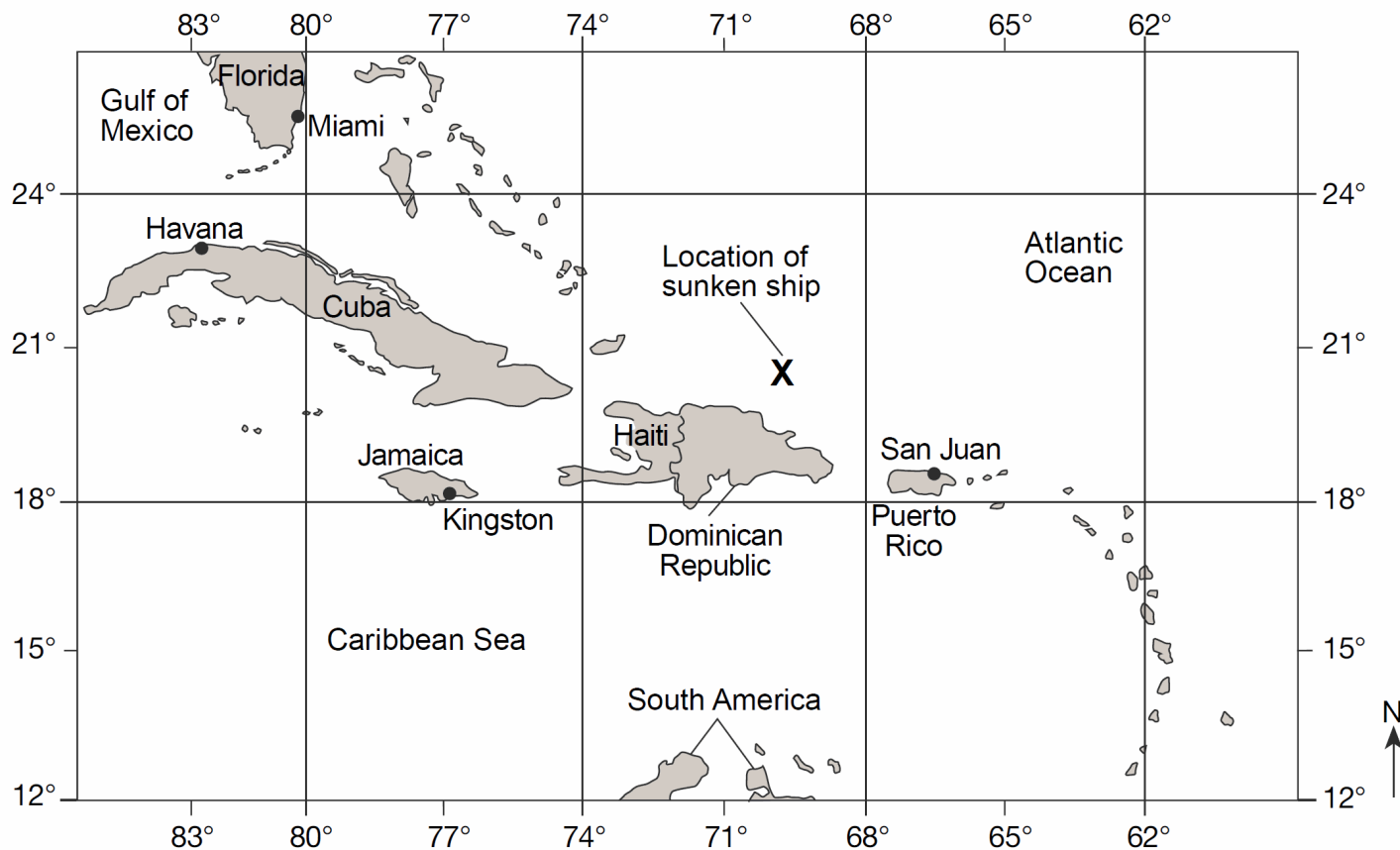
What is the time in New York City when it is noon in Denver?

- A) 10 a.m. B) 2 p.m. C) 3 p.m. D) noon

Base your answers to questions 31 and 32 on the passage and map below. The map shows sections of the Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico.

Shipwreck

In 1641, the crew of the ship *Concepcion* used the Sun and stars for navigation. The crew thought that the ship was just north of Puerto Rico, but ocean currents had carried them off course. The ship hit a coral reef and sank off the coast of the Dominican Republic. The X on the map marks the location of the sunken ship.



31. At which map location does *Polaris* appear the highest in the nighttime sky?

- A) Miami, Florida
- B) Kingston, Jamaica
- C) Havana, Cuba
- D) San Juan, Puerto Rico

32. What is the approximate latitude and longitude of the sunken ship?

- A) 20.5° N 70° E
- B) 20.5° N 70° W
- C) 20.5° S 70° E
- D) 20.5° S 70° W

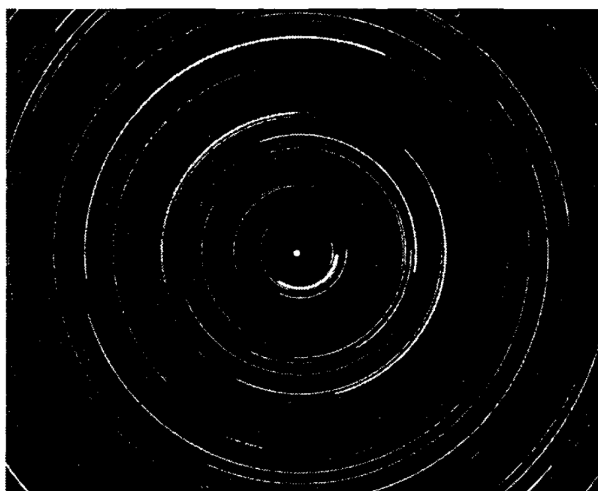
33. What time is it in Greenwich, England (at 0° longitude), when it is noon in Massena, New York?

- A) 7 a.m.
- B) noon
- C) 5 p.m.
- D) 10 p.m.

34. The approximate latitude of Utica, New York, is

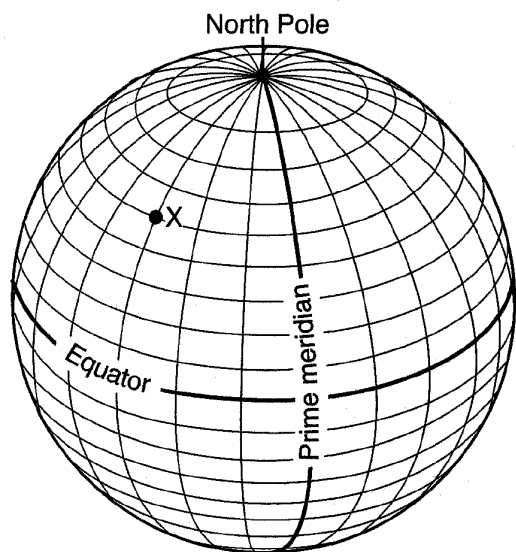
- A) 43°05' N
- B) 43°05' S
- C) 75°15' E
- D) 75°15' W

Base your answers to questions 35 and 36 on the time-exposure photograph shown below. The photograph was taken by aiming a camera at a portion of the night sky above a New York State location and leaving the camera's shutter open for a period of time to record star trails.



35. During the time exposure of the photograph, the stars appear to have moved through an arc of 120° . How many hours did this time exposure take?
- A) 5 h B) 8 h C) 12 h D) 15 h
36. Which celestial object is shown in the photograph near the center of the star trails?
- A) the Sun B) the Moon C) *Sirius* D) *Polaris*

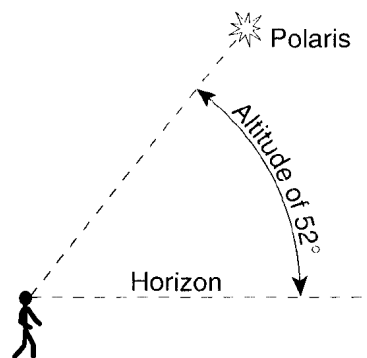
37. The diagram below shows latitude measurements every 10 degrees and longitude measurements every 15 degrees.



What is the latitude and longitude of point X?

- A) 40° S 45° E B) 50° N 45° W
 C) 60° S 30° W D) 75° N 30° E

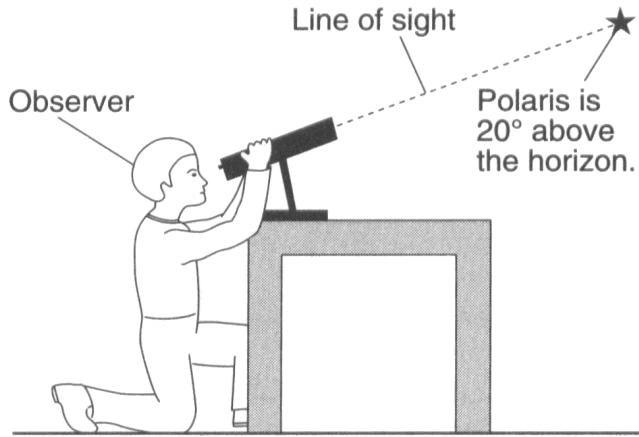
38. The diagram below shows an observer on Earth viewing the star *Polaris*.



What is the observer's latitude?

- A) 38° N B) 38° S
 C) 52° N D) 52° S

39. The diagram below shows an observer measuring the altitude of *Polaris*.

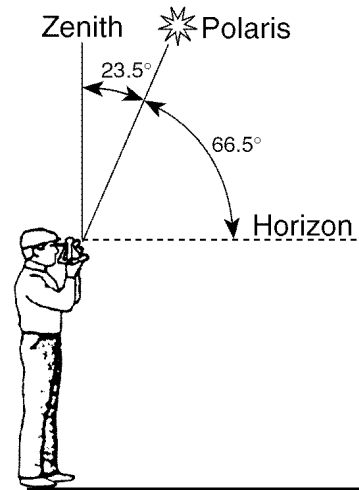


(Not drawn to scale)

What is the latitude of the observer?

- A) 20° N
- B) 20° S
- C) 70° N
- D) 70° S

40. The diagram below shows an observer on Earth measuring the altitude of *Polaris*.



What is the latitude of this observer?

- A) 90° N
- B) 66.5° N
- C) 43° N
- D) 23.5° N