

Latitude and Longitude Quiz Answer Key PDF

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Which line of longitude is known as the Prime Meridian?

- A. 90°E
- B. 0° ✓**
- C. 180°
- D. 45°W

What is the latitude of the Equator?

- A. 0° ✓**
- B. 45°N
- C. 90°S
- D. 180°

What is the maximum degree of latitude possible?

- A. 45°
- B. 90° ✓**
- C. 180°
- D. 360°

Which of the following coordinates could represent a location in the Southern Hemisphere? (Select all that apply)

- A. $45^{\circ}\text{N}, 120^{\circ}\text{E}$
- B. $30^{\circ}\text{S}, 60^{\circ}\text{W}$ ✓**
- C. $15^{\circ}\text{S}, 45^{\circ}\text{E}$ ✓**
- D. $60^{\circ}\text{N}, 90^{\circ}\text{W}$

Which unit is used to measure latitude and longitude?

- A. Kilometers
- B. Degrees ✓**
- C. Meters
- D. Inches

How would you calculate the distance between two points given their latitude and longitude?

Use the Haversine formula: $d = 2r * \arcsin(\sqrt{\sin^2((\text{lat}2 - \text{lat}1)/2) + \cos(\text{lat}1) * \cos(\text{lat}2) * \sin^2((\text{lon}2 - \text{lon}1)/2)})$, where r is the Earth's radius.

Which of the following are true about the Prime Meridian? (Select all that apply)

- A. It is located at 0° longitude ✓**
- B. It runs through Greenwich, England ✓**
- C. It is the starting point for measuring latitude
- D. It helps establish time zones ✓**

What is the primary purpose of the Prime Meridian?

- A. To divide the Earth into time zones
- B. To measure distance from the Equator
- C. To separate the Eastern and Western Hemispheres ✓**
- D. To calculate altitude

What is the longitude of the International Date Line?

- A. 0°
- B. 90°
- C. 180° ✓**
- D. 360°

Discuss the importance of the Prime Meridian in global navigation.

The Prime Meridian, established at 0 degrees longitude, is essential for global navigation as it provides a standard reference point for time zones and geographic coordinates, facilitating international travel and communication.

Describe the significance of the Equator in dividing the Earth into hemispheres.

The Equator is significant as it serves as the primary reference line for latitude, dividing the Earth into the Northern Hemisphere and Southern Hemisphere, which affects climate zones, weather patterns, and ecological diversity.

How do latitude and longitude coordinates help in determining time zones?

Latitude and longitude coordinates help in determining time zones by identifying specific locations on Earth, which are divided into longitudinal zones that align with the rotation of the Earth, resulting in different local times.

Which of the following are applications of latitude and longitude? (Select all that apply)

- A. Determining climate zones ✓**
- B. Calculating altitude
- C. Navigation and GPS ✓**
- D. Setting time zones ✓**

What is the process for converting coordinates from degrees, minutes, and seconds to decimal degrees?

Decimal Degrees = Degrees + (Minutes/60) + (Seconds/3600)

What are the characteristics of the Equator? (Select all that apply)

- A. It is at 0° latitude ✓**
- B. It divides the Earth into Eastern and Western Hemispheres
- C. It is the longest line of latitude ✓**
- D. It runs through the poles

Which hemisphere is located above the Equator?

- A. Eastern Hemisphere
- B. Western Hemisphere
- C. Northern Hemisphere ✓**

D. Southern Hemisphere

Explain how latitude and longitude are used in GPS technology.

GPS technology uses a network of satellites that transmit signals containing their location and the exact time. By calculating the time it takes for these signals to reach a GPS receiver, the device can determine its latitude and longitude, allowing it to identify its exact position.

Which of the following statements about the International Date Line are correct? (Select all that apply)

- A. It is located at 180° longitude ✓**
- B. It is used to calculate altitude
- C. It marks the change of one calendar day to the next ✓**
- D. It divides the Earth into Northern and Southern Hemispheres

Which direction do lines of latitude run?

- A. North-South
- B. East-West ✓**
- C. Diagonal
- D. Vertical

Which of the following are true about lines of longitude? (Select all that apply)

- A. They run parallel to the Equator
- B. They converge at the poles ✓**
- C. They measure distance east or west of the Prime Meridian ✓**
- D. They are also known as parallels