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## Ch 2: Parallels and Meridians

**FactWise**

The word 'latitude' originates from the Latin word *latus* which means wide. The word 'meridian' originates from the Latin word *meridies* which means midday. It is from the word meridian that we get words such as *ante meridiem* (a.m.) meaning 'before noon' and *post meridiem* (p.m.) meaning 'after noon.'

**Important features of parallels**

- All parallels are complete circles, except for the North Pole and the South Pole. These are points.
- The length of the parallels decreases as we move away from the Equator and towards the poles.
- All parallels are located at an equal distance from each other.
- Parallels neither touch nor cross one another.

**How are parallels numbered?**

We start from the Equator and mark it as  $0^\circ$  latitude. We mark the other parallels from  $0^\circ$  to  $90^\circ$ . Apart from their value, the parallels are also marked N (North) or S (South), according to their location. The North Pole is written as  $90^\circ\text{N}$ . The South Pole is written as  $90^\circ\text{S}$ . Parallels are drawn at intervals of one degree. There are 90 parallels in the Northern Hemisphere and 90 parallels in the Southern Hemisphere. Therefore, there are 181 parallels in all, including the Equator.



Fig. 2.2 Important parallels

**Important parallels**

Other than the Equator ( $0^\circ$ ), the North Pole ( $90^\circ\text{N}$ ) and the South Pole ( $90^\circ\text{S}$ ), there are four other important parallels. These are

- the Tropic of Cancer ( $23\frac{1}{2}^\circ\text{N}$ )
- the Tropic of Capricorn ( $23\frac{1}{2}^\circ\text{S}$ )
- the Arctic Circle ( $66\frac{1}{2}^\circ\text{N}$ )
- the Antarctic Circle ( $66\frac{1}{2}^\circ\text{S}$ )

The Arctic and the Antarctic circles are also called polar circles.

**Checkpoint**

Write T for True or F for False.

1. The east-west lines drawn on a globe are called parallels. ☐
2. All parallels are of the same length. ☐
3. The North Pole lies in the Southern Hemisphere. ☐
4. The Tropic of Cancer lies in the Northern Hemisphere. ☐

### MERIDIANS

- 3 Imaginary lines running from north to south are called meridians or lines of longitude. These lines are drawn from pole to pole.



Fig. 2.3 Meridians are lines of longitude.

### Important features of meridians

- ✓ All meridians are of the same length.
- ✓ The maximum distance between any two meridians is at the Equator.
- The distance between any two meridians decreases as we move away from the Equator towards the poles.
- Meridians cut the parallels at right angles ( $90^\circ$ ).
- ✓ Meridians are used to measure distances in the east-west direction.

### How are meridians numbered?

You have read that to number the parallels we start from the Equator. Similarly, we need a starting point to number the meridians. In 1884, it was decided to fix Greenwich, a place near London, as the starting point for numbering meridians. The meridian that passed through Greenwich was

marked  $0^\circ$  and named Prime Meridian. The longitude of a place is measured east or west of the Prime Meridian.

Like parallels, meridians are also drawn at intervals of one degree. If we move away from the Prime Meridian towards the east or the west, we reach halfway round the Earth at  $180^\circ$ . Thus, there are 180 meridians towards the east of the Prime Meridian and 180 meridians towards the west of the Prime Meridian. The meridian of  $180^\circ\text{E}$  and  $180^\circ\text{W}$  is the same line. So, in total there are 360 meridians.

### Locating places on the globe

The parallels and meridians form a network of lines on the globe. This is called a grid. We use it to locate places on the globe.

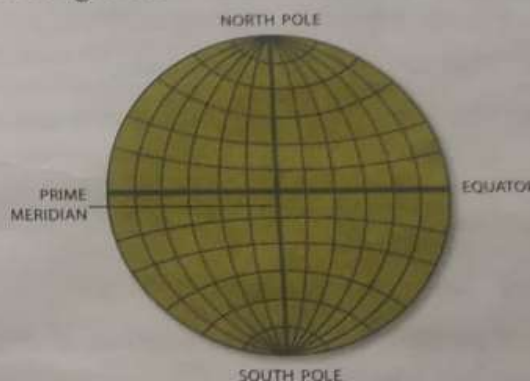


Fig. 2.4 A grid is a network of parallels and meridians.

To locate a place, we must know the values of its parallel or latitude and its meridian or longitude. The point at which the parallel and the meridian cross each other is the location of that place.

See the video [https://youtu.be/s0AX3IJ\\_H78](https://youtu.be/s0AX3IJ_H78)

Carefully and read the PDF file:

Q1: Fill in the blanks:

1. Imaginary lines running from north to south are called meridians or lines of \_\_\_\_\_.  
These lines are drawn from Pole to \_\_\_\_\_
2. The east – west lines drawn on a globe are called \_\_\_\_\_
3. The North Pole lies in the \_\_\_\_\_ hemisphere.
4. The tropic of \_\_\_\_\_ lies in the Northern Hemisphere.
5. All meridians are of the \_\_\_\_\_ length
6. Meridians are used to measure distances in the \_\_\_\_\_ direction.
7. In 1884, it was decided to fix Greenwich a place near \_\_\_\_\_, as the starting point for numbering meridians.
8. The meridian that passed through Greenwich was marked  $0^{\circ}$  and named \_\_\_\_\_
9. There are \_\_\_\_\_ Meridians towards the east of the Prime Meridian and 180 meridians towards the west of the prime meridian.
10. In total there are \_\_\_\_\_ meridians.

Q2: Name and draw the important parallels.

Answers:

1. Longitude
2. Parallels
3. Northern
4. Cancer
5. Same
6. East West
7. London
8. Prime meridian
9. 180
10. 360

Ans2: The important parallels:

- 1) Equator –  $0^{\circ}$
- 2) Tropic of Cancer –  $23 \frac{1}{2}^{\circ}$  N
- 3) Tropic of Capricorn –  $23 \frac{1}{2}^{\circ}$  S
- 4) Arctic Circle –  $66 \frac{1}{2}^{\circ}$  N
- 5) Antarctic Circle –  $66 \frac{1}{2}^{\circ}$  S

