D'LAT AND D'LONG
EXERCISE-3

Note: This module will be understood best if studied along with the video provided for subscription where by same topics have been in large explained by me and hence this transcription is here only to help and enhance your concepts about the basic of D'Lat and D'Long.

In the last section we discussed about the calculation of D'Lat and D'Long with reference to initial and final positions given to us. Now in our next two videos of this module I have discussed calculation of final position when initial position is given along with D'Lat and D'Long.

Remember: D'Lat and D'Long as explained before only give direction and magnitude of movement from an initial position and hence cannot be drawn along with latitudes and longitudes in the figure instead they are shown separately as per their direction arrows.

The following examples will best explain our objective to calculate final position for a given initial position and the respective D'Lat and D'Long:-

1. Lat A- 10° 10' N
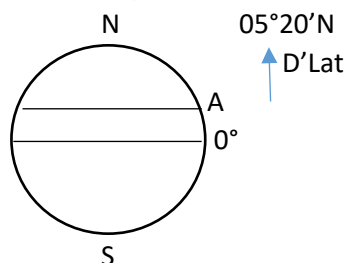   <u>D'Lat- 05° 20' N</u>
   Lat B- 15° 30' N (Lat B= Lat A+ D'Lat)

Fig of ex: 1

In the above example it is clearly noticeable that we are moving **away from 0°** as per the D'Lat given and hence the **value of Lat will increase (+),** thus we added the D'Lat to initial Lat And here we would obviously **not cross 0°** hence **name of final Lat remains same as initial Lat.**

2. Lat A- 65° 30′ S
   D'Lat- 15° 20′ N
   Lat B- 50° 10′ S (Lat B= Lat A- D'Lat)
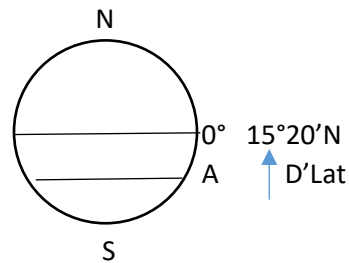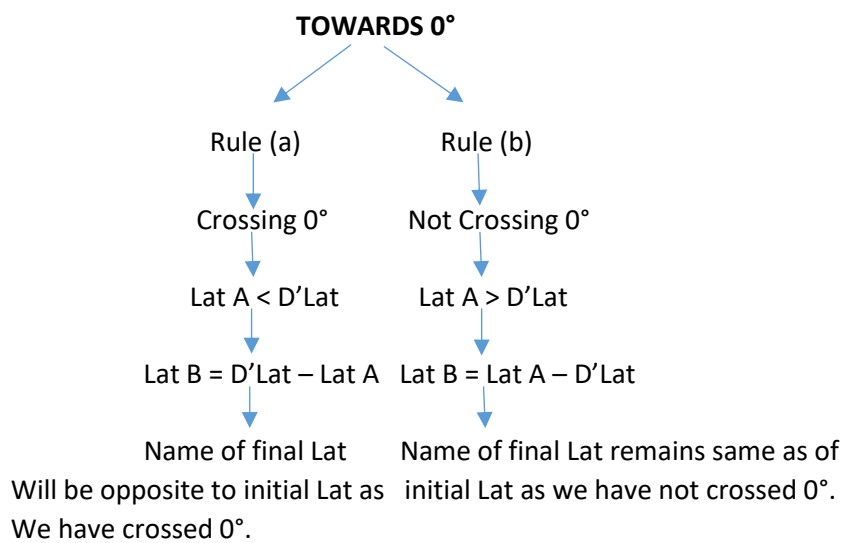

Fig of ex: 2

In the above fig. it can be clearly seen that as per D'Lat our direction of movement is **towards 0°.** Now this sought of movement can inculcate the following thumb rule whereby we have to judge that whether after doing the requisite movement of D'Lat would we cross the equator or not :

TOWARDS 0°

Rule (a)   Rule (b)

Crossing 0°   Not Crossing 0°

Lat A < D'Lat   Lat A > D'Lat

Lat B = D'Lat – Lat A   Lat B = Lat A – D'Lat

Name of final Lat   Name of final Lat remains same as of
Will be opposite to initial Lat as   initial Lat as we have not crossed 0°.
We have crossed 0°.

From the above rule it is clear that in **eg.2** we have used **Rule (b)** to calculate our Final Lat.

3. Lat A- 18° 40' N
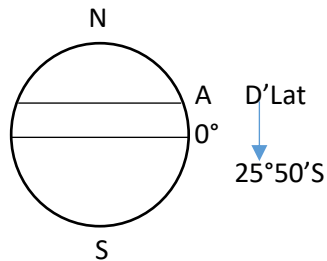   D'Lat- 25° 50' S
   Lat B- 07° 10' S (Lat B= D'Lat- Lat A)

Fig of ex: 3

In the above example the diagram illustrates that here for calculation of D'Lat **Rule (a)** explained above will be used.

Practice Exercise:-

1. Lat A- 28°10'N
   D'Lat- 10°25'N

2. Lat A- 75°30'S
   D'Lat- 12°20'N

3. Lat A- 05°15'N
   D'Lat- 25°45'S

4. Lat A- 14°20'S
   D'Lat- 40°50'S

5. Lat A- 30°05'S
   D'Lat- 50°30'N

   ANSWERS:-

   1. 38°35'N   2. 63°10'S   3. 20°30'S   4. 55°10'S   5. 20°25'N