

02/04/2020



Directions and bearing

Direction is the position of an object or someone. Usually it is calculated with respect to North (N).

There are four basic directions -

- (1) North
- (2) South
- (3) East-
- (4) West-

They are at angles of 90° and close circle. It is universal fact - that if you face Sun your front faces East (E) Back West (W), left-hand (N) and right-hand (S).

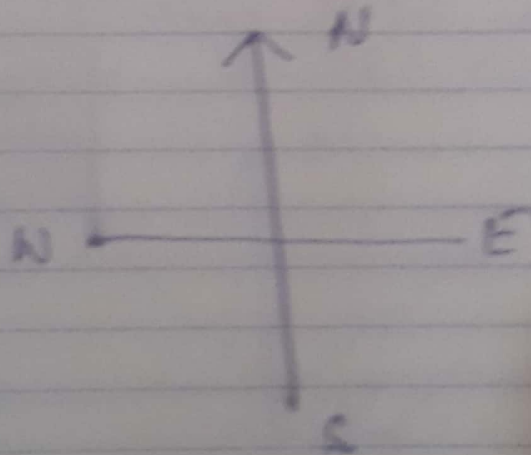


Fig:-

Four dir
(E, W, N, S)

Usually North (N) is considered to be the reference point and all other directions are measured with respect to it.

can be calculated accordingly:

Bearings :-

Bearing is the angular position of an object with respect to N or fixed direction. Mostly bearings are calculated with respect to the North.

Bearings may be divided into two types -

- (A) Quadrant Bearing.
- (B) Full circle bearing

(A) Quadrant-bearing -

There are sixteen quadrant bearings. These are represented as below

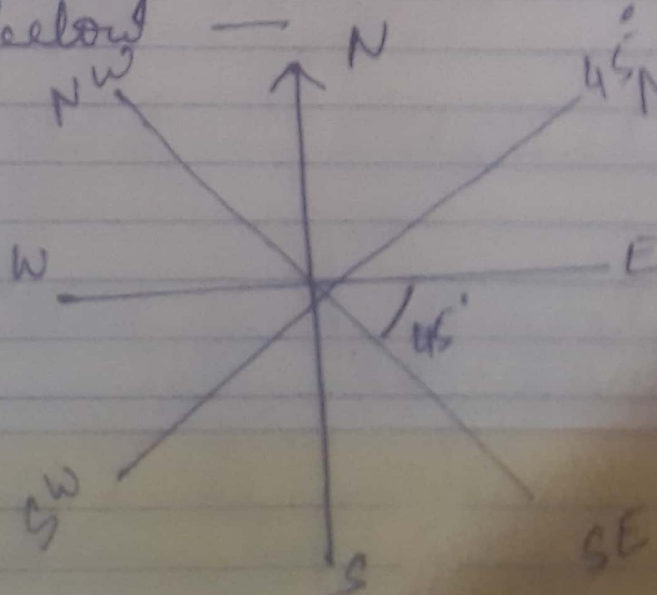


Fig. Eight Quadrant bearings

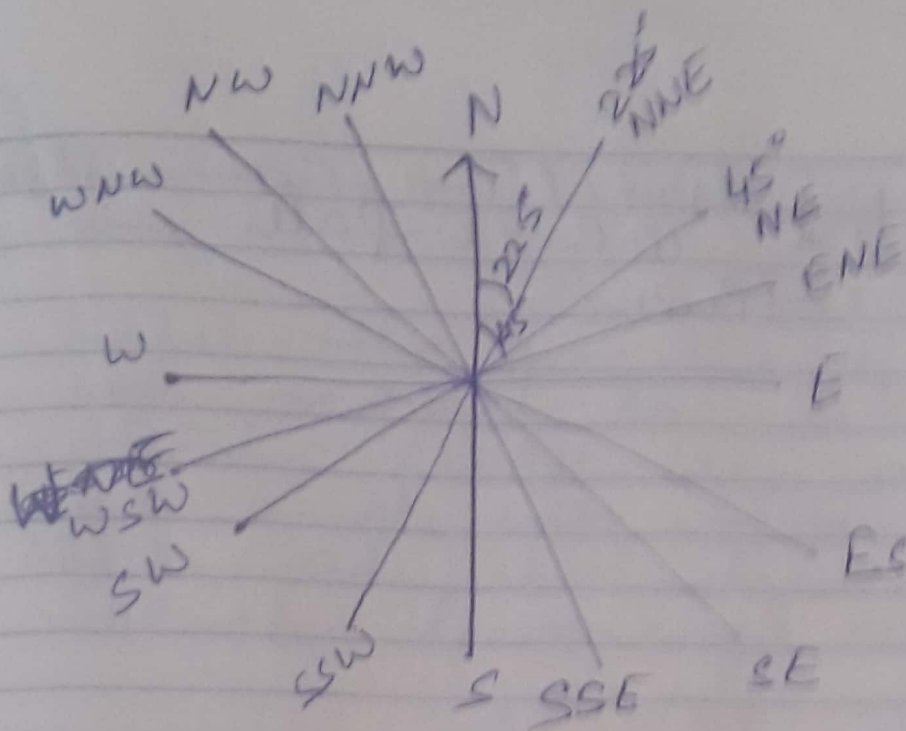


Fig:- Sixteen
Quadrantal-
bearings.

These Sixteen Quadrantal bearings are represented above. All these have angular relation with the four major directions i.e. N, S, E, W.

For example - N/SSE - Means a direction at an angle of 22.5° from South.

(b) WSW - A direction at 22.5° from West.

(c) ESE - A direction at 22.5° from East.

If distance of an object is known with its bearing, the location can be known very easily on Map.

① Full circle bearing

The Full circle bearing refers to the position of an object with respect to N. It is calculated clockwise and represented as angle with respect to N. There are 360° directions in Full circle bearings -

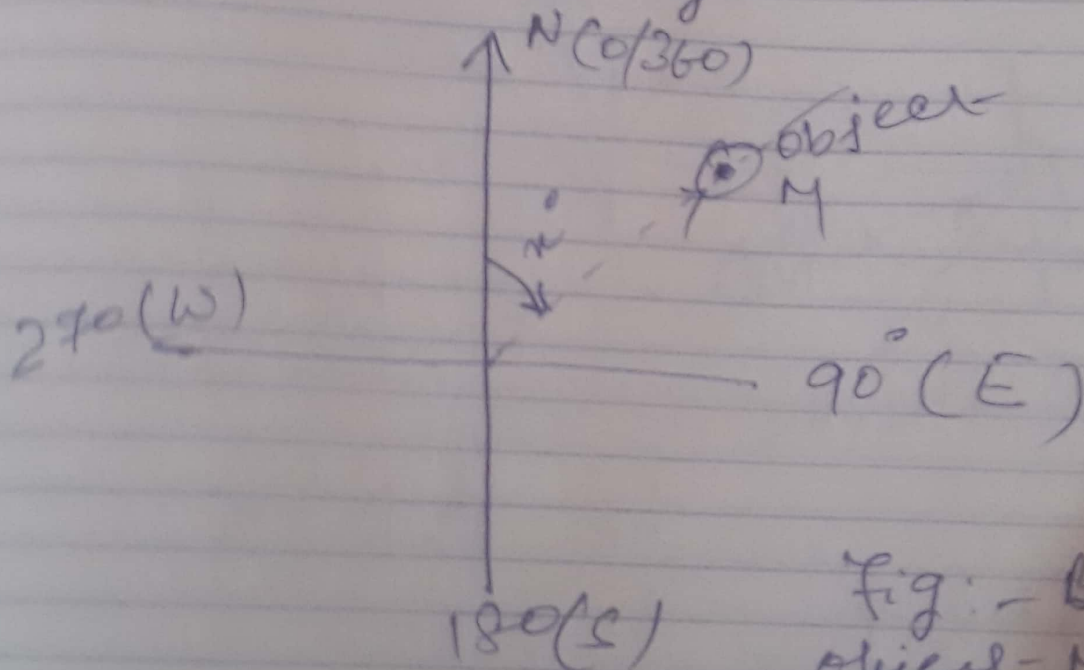
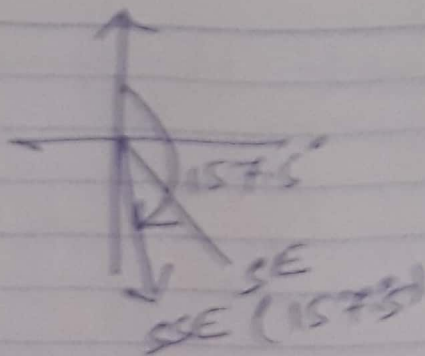


Fig. - Bearing of object - M in full circle bearing

In the figure location of object - M is calculated as i° from N. \oplus

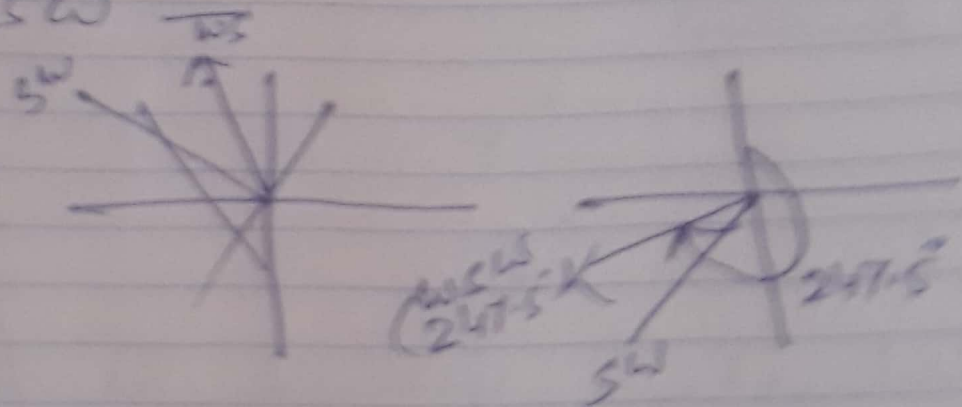
The various quadrant bearings are represented as below in Full circle bearing -

(a) SSE -



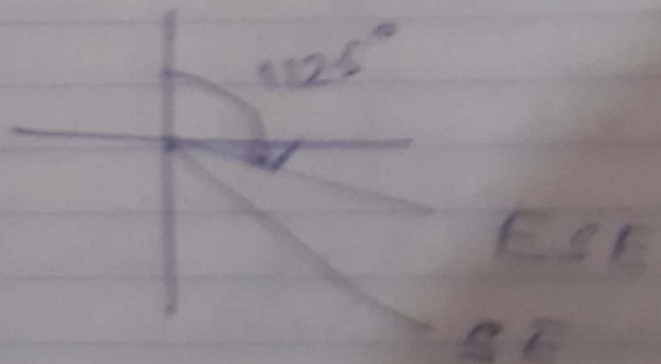
SSE or 157.5°

(b) WSW



WSW - 247.5°

(c) ESE -



Similarly the position of any object can be determined as angular relation. For example for

object M and N are located
will be \rightarrow

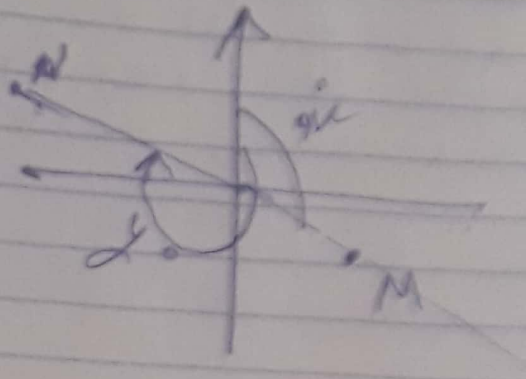


Fig. Location of
M & N in
full circle
bearing.

$$M - \alpha^{\circ}$$

$$N - \beta^{\circ}$$

It is always calculated
in clockwise direction.

Bearings are now very
important for Navigation and
Airways. It is only distance
and direction in which
which locates position of
an object. Now a days
the bearings are also
important for Missile also
and other purposes.