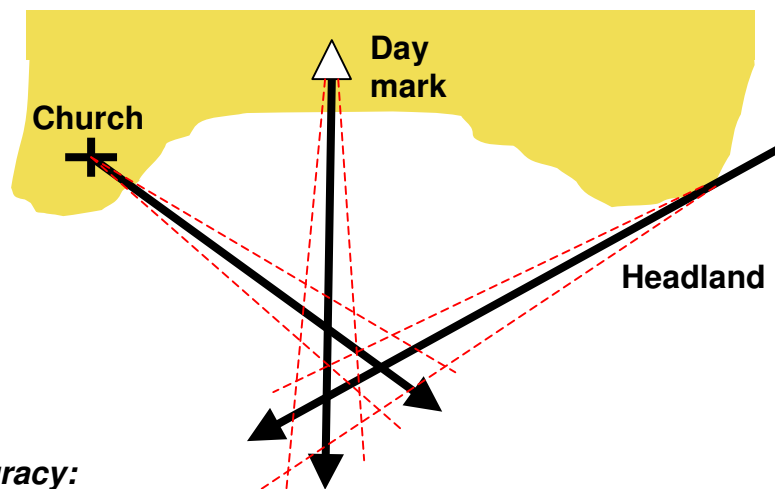


## Position lines and position fixing

Obtained from usable navigational aids on land or sea. Lines can be defined by:

1. Two marks or features in line give a TRANSIT – very accurate
2. A hand bearing compass reading to a mark, light or feature – moderate to good accuracy (NB allow for variation on the compass bearing, but not deviation). Hold the compass away from magnetic influences.
3. A depth contour – moderate to poor accuracy, acceptable in fog. Allow for height of tide.
4. Sector lights, where they change from one colour to another - accurate
5. A range and bearing from a dipping light - moderate
6. A range and bearing from radar – radar range is very accurate, radar bearing is moderate
7. Range from vertical sextant angle, with a bearing – can be good with practice.

The intersection of two or more position lines gives a fix, but allow for errors in measuring angles, identification and plotting. Take your position in the 'cocked hat' as that closest to any local danger.



### ***For maximum accuracy:***

1. Ensure the feature is identified accurately
2. Features should be some distance away, not too close as the bearing will change rapidly.
3. Lines should cut at 60° - 90° for maximum accuracy. Three lines are best.
4. Take the bearing from ahead or astern first as this bearing will change least while you complete the bearings.
5. If the 'cocked hat' is large check again. Do not assume your position is actually in the cocked hat – see errors above.

Note that navigation buoys can move or be off station

## Position using a waypoint

Your GPS will show your position as a bearing TO a waypoint and a distance away. Make sure you plot the bearing from the boat TO the waypoint eg

