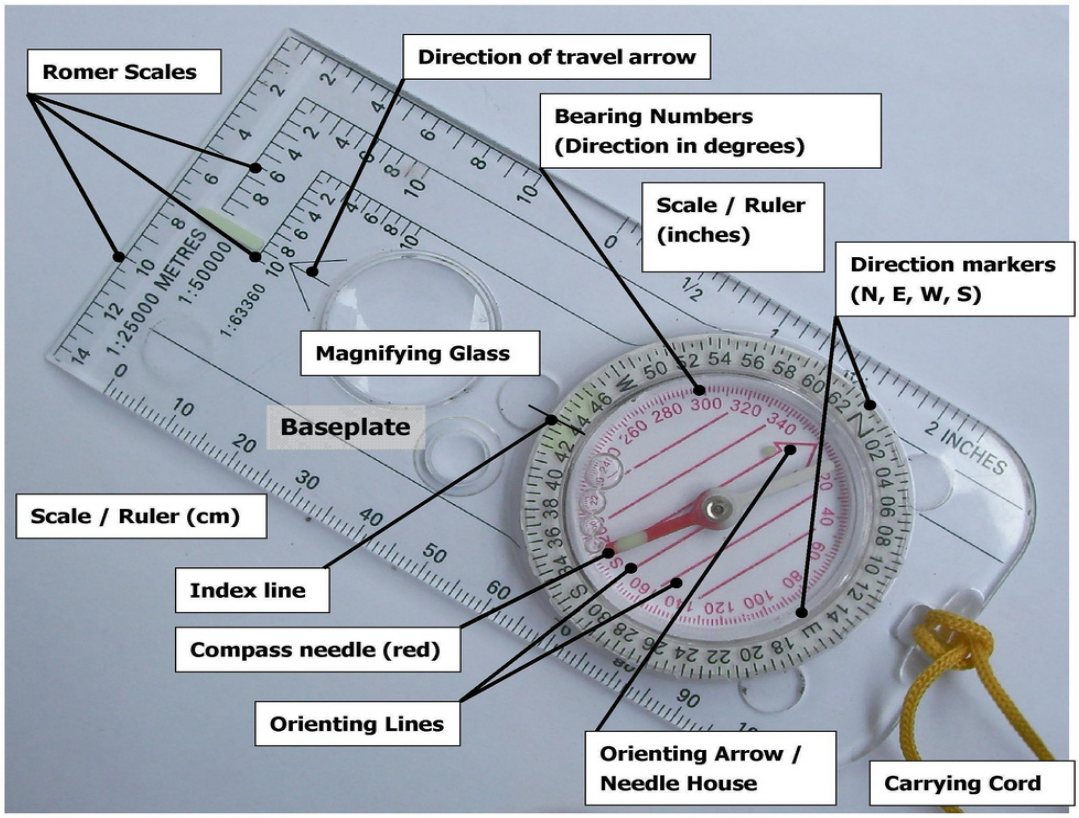
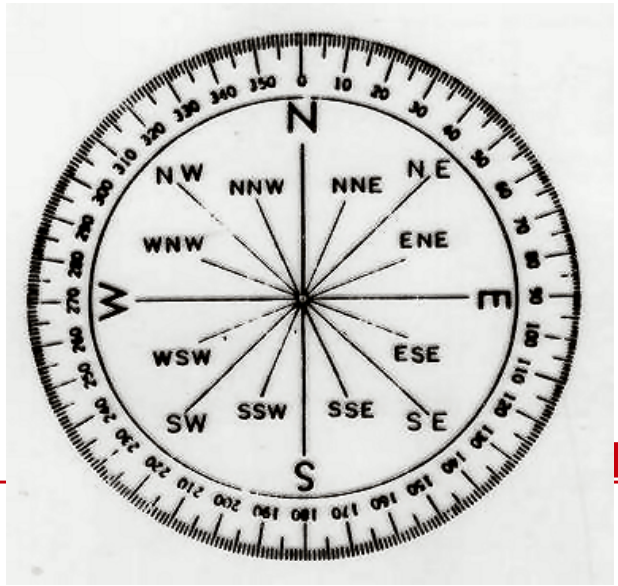
The Compass



A typical protractor compass

0/360 Deg.

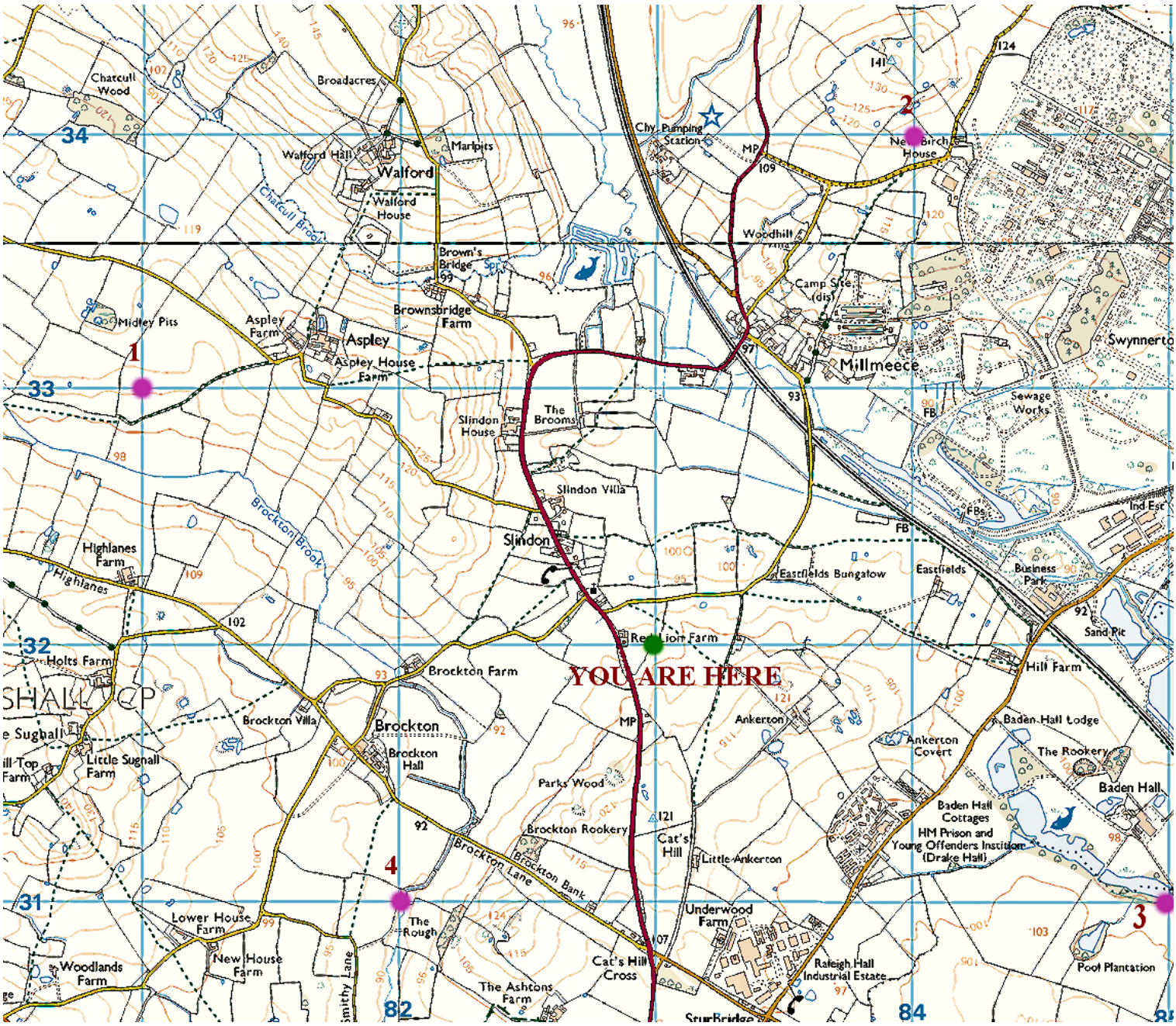
270 Deg.



90 Deg.

CARDINAL POINTS

180 Deg.



In the bottom left hand corner of Explorer 258 mark five positions at the intersections of the following Eastings and Northings.

1/ 81 33 Destination point No1
2/ 82 31 Destination point No4
3/ 83 32 Your position on the map
4/ 84 34 Destination point No2
5/ 85 31 Destination point No3



Point No 1 **Your Position**

Place the compass with either of its sides along a line between your position and destination point no1 with its FRONT end towards point no1.

Ensure that one of the vertical blue Easting lines on the map is visible somewhere inside the circular housing. (slide the compass if necessary)

Turn the circular needle housing until the orienting lines inside the compass housing are exactly parallel to the blue Easting line and that the orienting arrow is pointing North. Ignore the magnetic needle.

Remove the compass from the map and note down the reading in degrees shown on the circular scale on the circular housing.

Check that the reading makes sense (the bearing should be between 270 and 360 degrees in this case)

Navigating to Point No 1

Note that we are deliberately allowing a 2 degree error to occur by ignoring the complications brought about by the difference between magnetic north and true north

Holding the compass horizontally in front of you at approximately chest height to avoid interference in the magnetic field due to mobile phones etc. Rotate your body slowly keeping your eye on the magnetic needle inside the compass housing.

Line up the red (N) end of the compass needle exactly inside the outline of the orienting arrow. Take your time with this operation and keep jiggling the compass slightly to ensure that the needle is not catching the top or bottom of the housing.

The Direction Of Travel Arrow on the rectangular baseplate of the compass is now pointing exactly in the direction of the destination point.

Taking care not to disturb the compass needle, locate a point on the close horizon exactly in line with the direction of travel arrow. Take no further notice of the compass but walk to the point that you chose.

Without altering the settings on the compass now Line up the red end of the magnetic compass needle with the orienting arrow again and select another point ahead of you and walk to it in a similar fashion.

Repeat this procedure until your destination comes into view.

For Destination at Point 2

Point No 2



Your Position

For Destination at Point 3

Your Position **Point No 3**



For Destination at Point 4



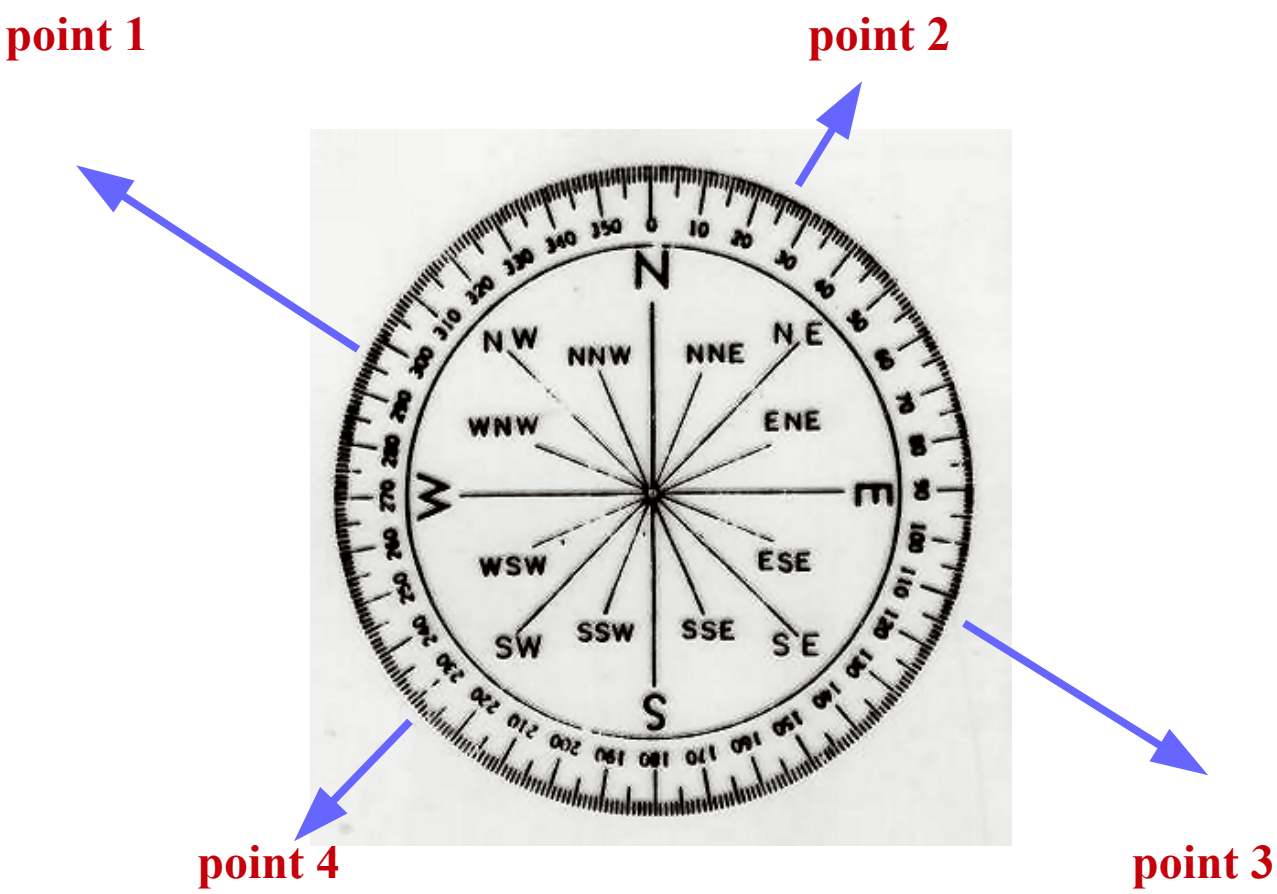
The Directions in which you traveled were :-

Point No 1 was 297 degrees, which is in a WNW direction

Point No 2 was 25 degrees, which is in a NNE direction

Point No 3 was 115 degrees, which is in a ESE direction

Point No 4 was 225 degrees, which is in a SW direction



Some Navigating Techniques

Leap Frogging

In areas without any easily identifiable features, and if you are not alone, you can ask your companion to walk forward on the bearing that is shown by the compass and position himself as far away from you as possible to act as a marker. When he is directly in line with the compass direction of travel arrow then walk to join him and then repeat the procedure.

Aiming Off

Sometimes it is advisable, rather than setting a bearing which will take you exactly to your destination, to deliberately aim to the left or right of your objective. By this means a feature such as a stone wall or other field boundary can be followed towards the exact point of interest.

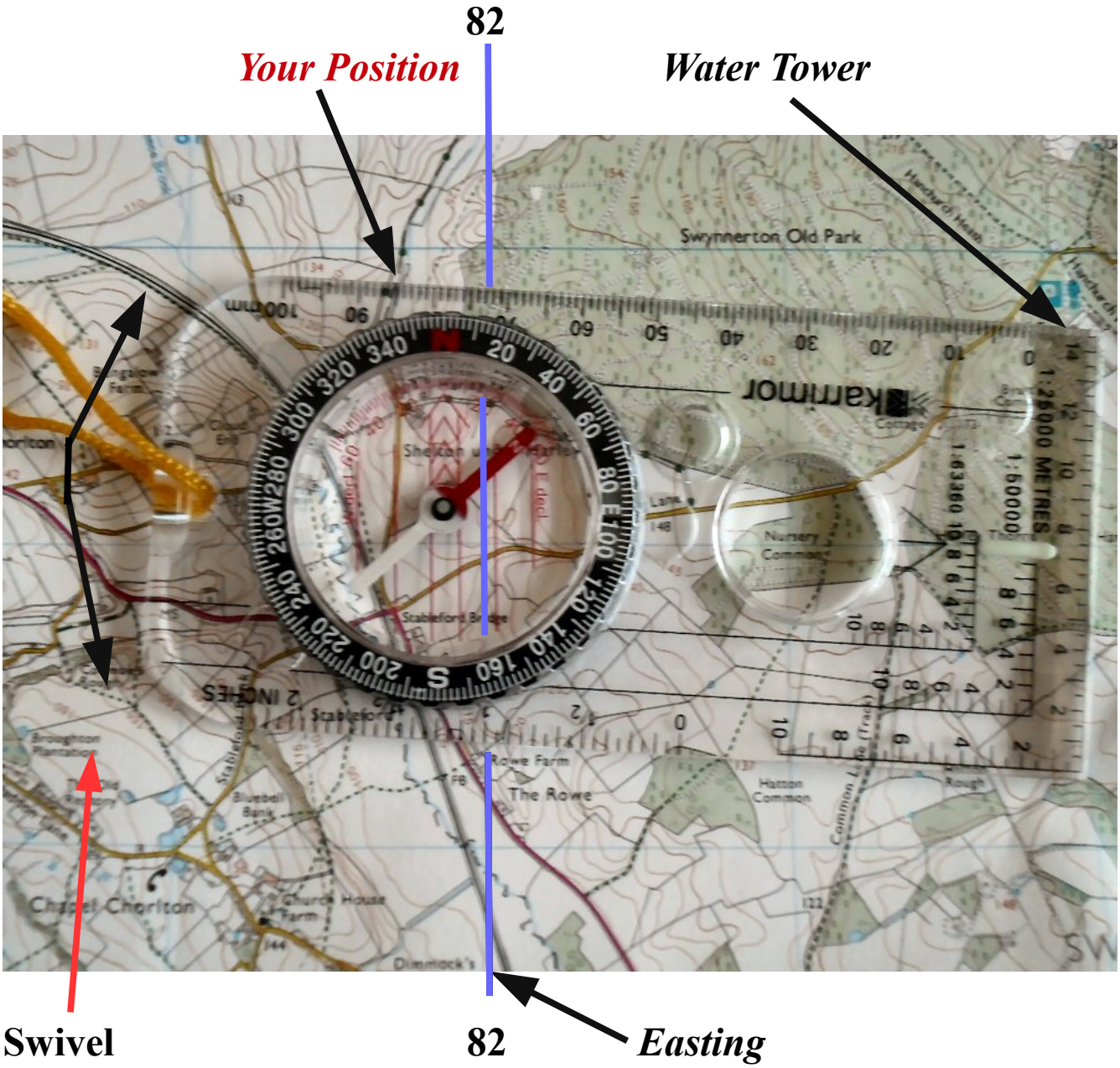
Identifying a prominent visible Feature On The Landscape

Aim the direction of travel arrow at the Unknown feature and rotate the compass housing to line up the red end of the compass needle with the orienting arrow. Place the compass onto the map with the side of the compass on your known position. Now rotate the Front of the compass to line up the orienting lines with one of the Eastings on the map. The unknown feature should now be visible on the map further along the same side of the compass towards the front.

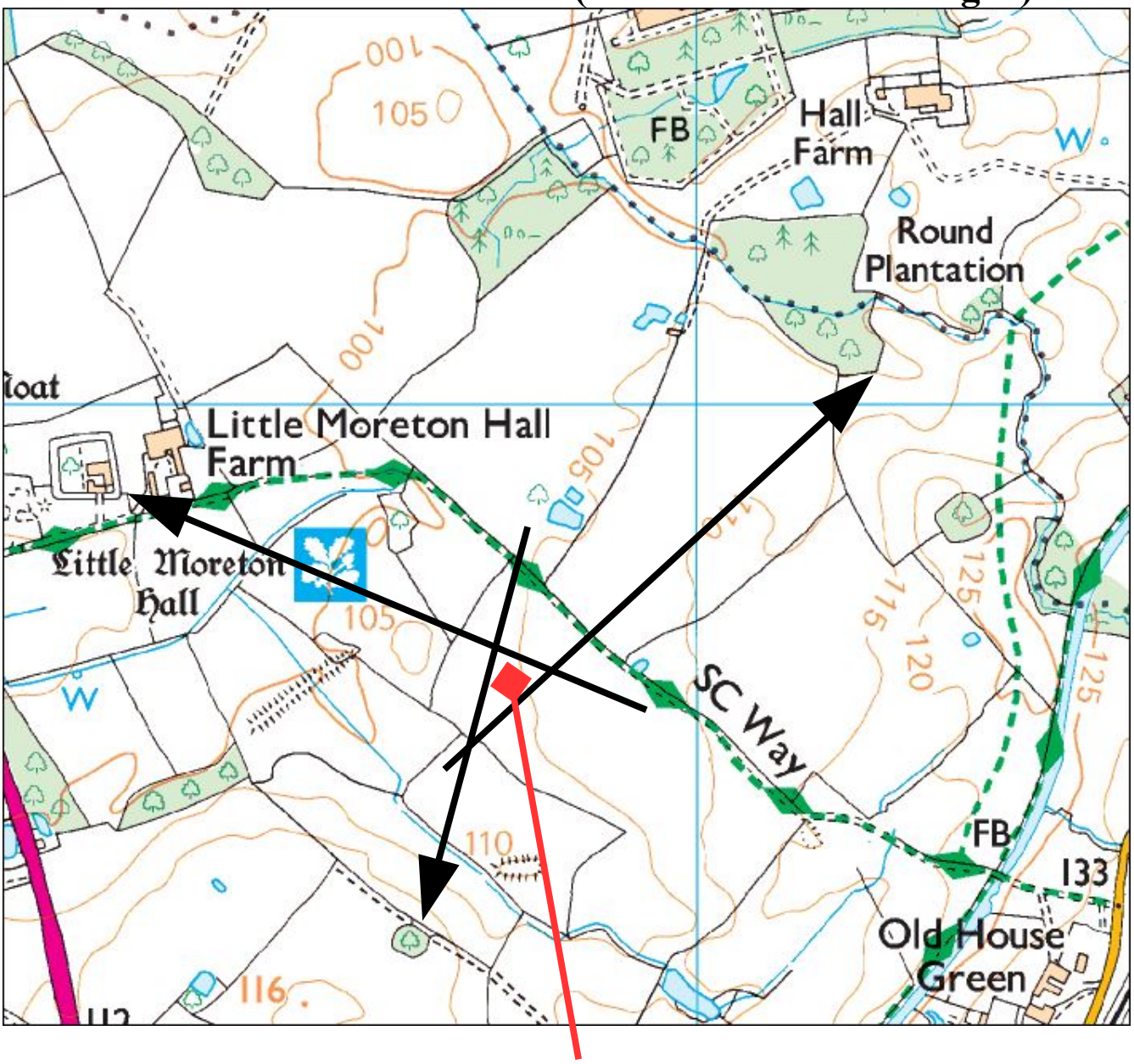


How can I work out where I am using only a compass ?

1/ Using Backbearings You are walking south along a path to the west of Swynnerton Old Park but what is your actual position on the path. ? Hanchurch water tower can be seen over the tops of the trees so you take a bearing on it of 94 degrees. Place the compass on the map and rotate the back end of the compass until the orienting lines are parallel to the vertical easting line inside the compass housing.



2/ Resectioning If you can see, and identify on the map, two or more prominent landmarks you can take additional bearings. Place the compass on the map as for the backbearing example but this time draw a pencil line along the side of the compass. Repeat this procedure for the other landmarks and your position is indicated where the lines meet (or form a small triangle).

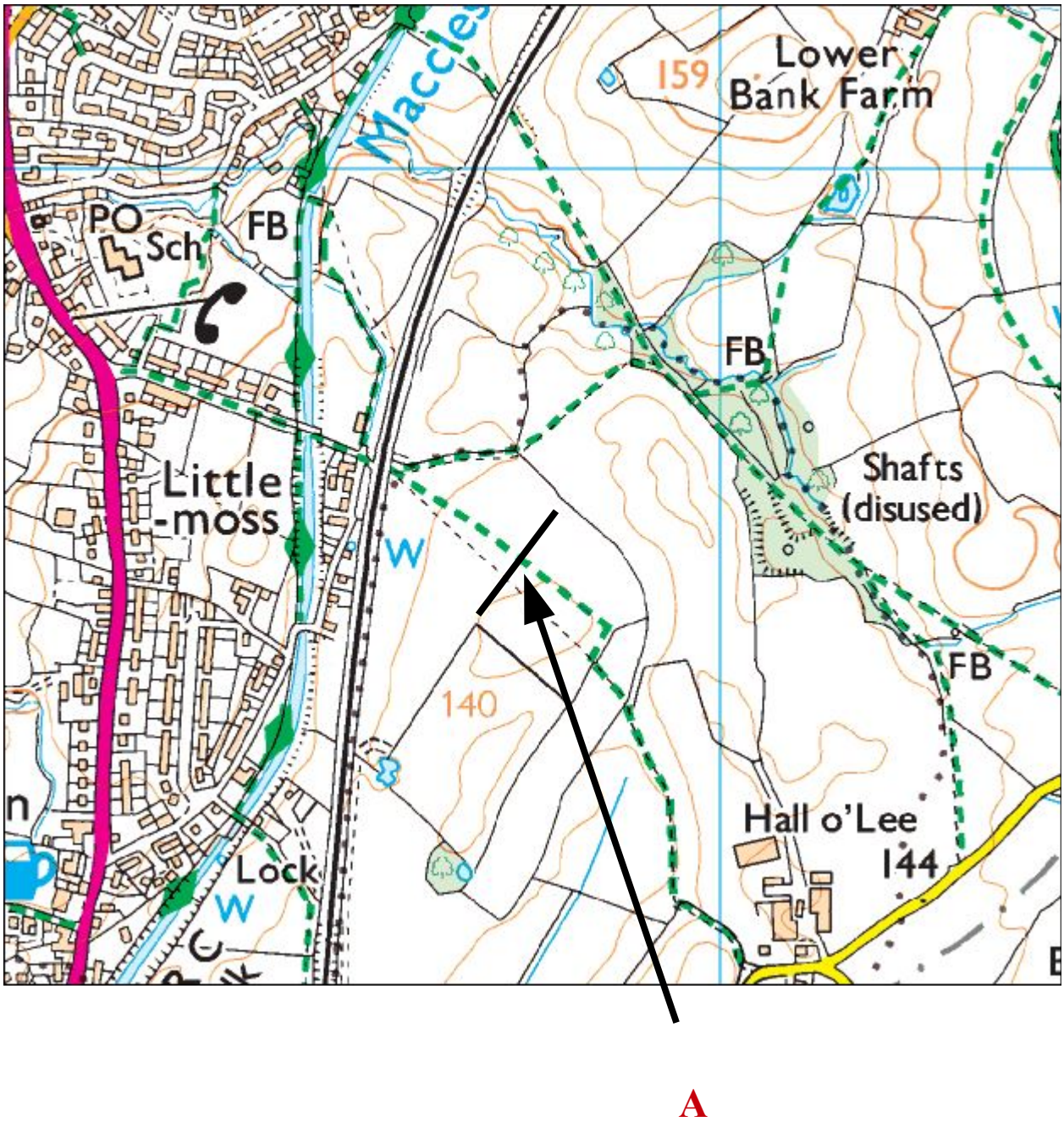


Your Approximate Position

Bearings taken on Little moreton hall, (294 deg) the edge of round plantation (46 deg) and a small wood (210 deg)

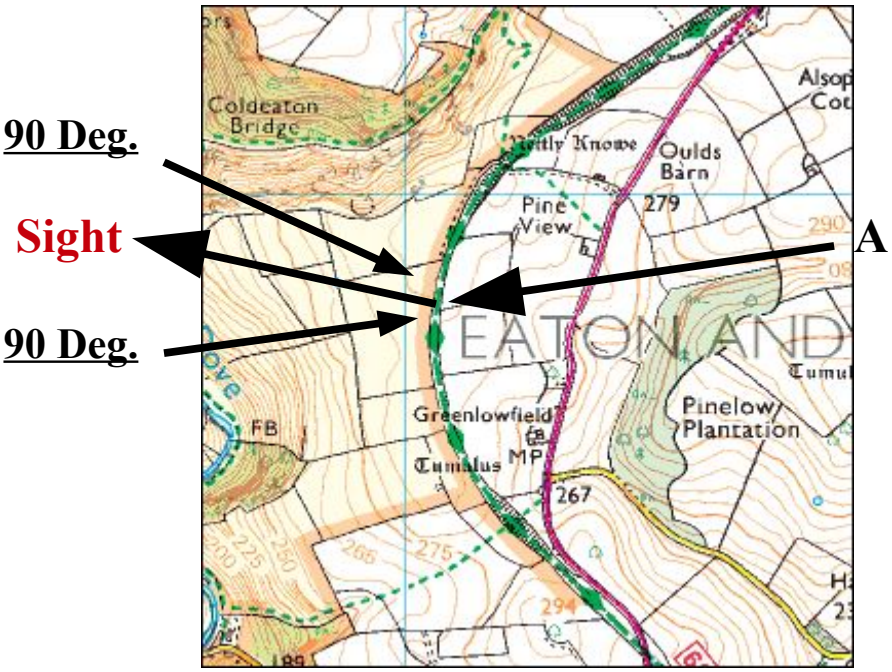
3/ Lining up features

You are walking along a footpath approaching the railway line when you pass on your left the corner of a field. Sighting along the side of the field when you are in line shows an angle of 210 degrees. This agrees with the map and confirms that you are at point A on the footpath.



4/ The Aspect Of A Curve

I am walking down a disused railway line but where exactly am I ?



Take a compass bearing when pointing the compass away from the railway line and at right angles to it, In this case the compass would read 280 degrees. Lay your compass on the map and rotate the front of the compass to line up the orienting lines with the appropriate Easting showing that you are at point A

Try this out on the section of dismantled railway in grid square SJ 97 53

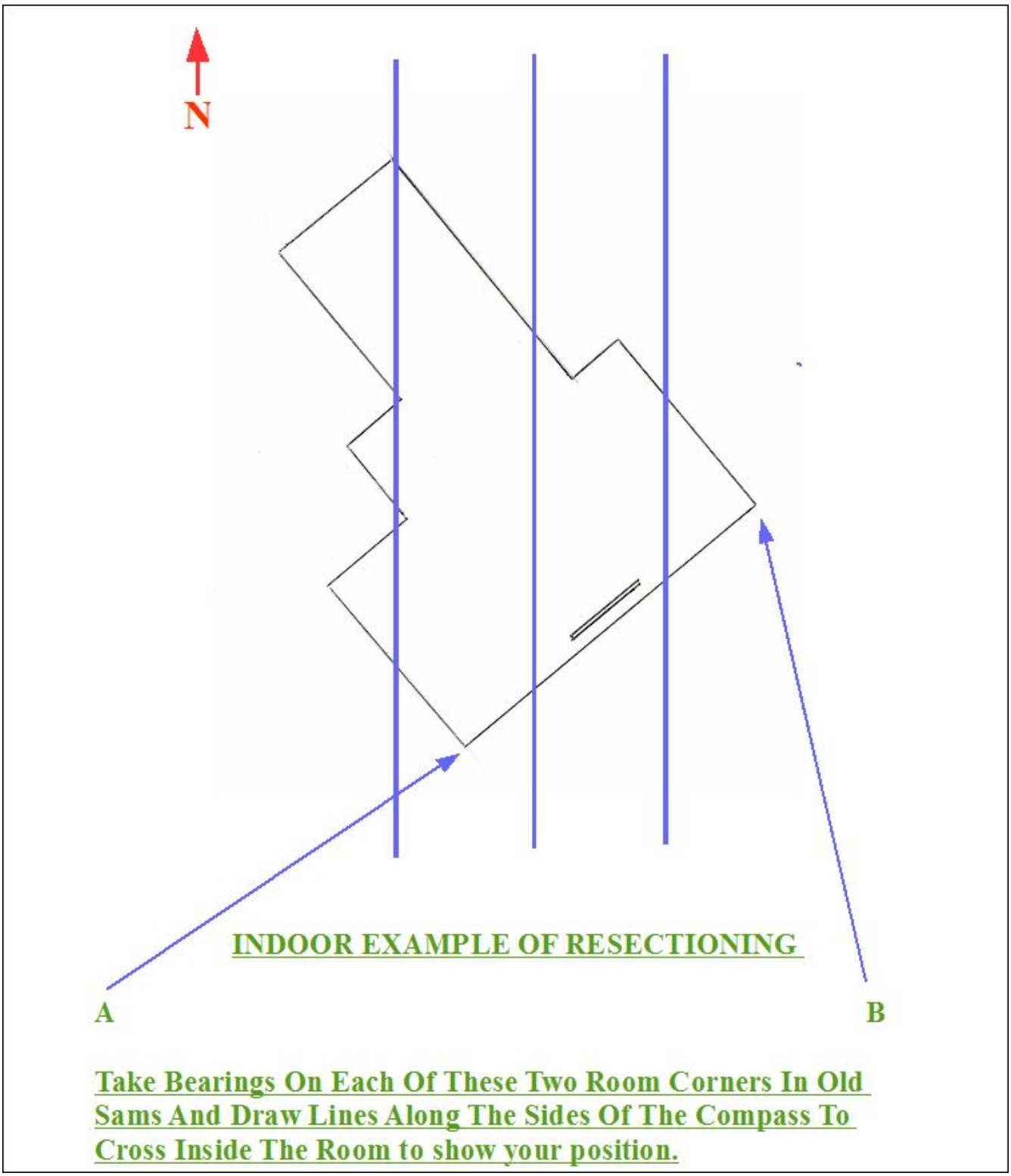
Navigation Excercises

1/ You are standing on the roadside of the A519 at grid ref. SJ 8390 3635. Where does the footpath which leaves the road on a bearing of 318 degrees go to ? It eventually meets the A51 at what grid ref. ?

2/ You are somewhere on the northern edge of Wetley Moor in square SJ 92 49 (to the east of kerry hill) you need to return to your car which is in the car park on the south east corner of the moor by the fastest walking route using a footpath. What bearing would you set on your compass and how far is it to your car ? How long will it take to walk there at your normal pace ?

Navigating Around This Room





If you can identify where you were standing when you took the bearings then you can feel confident that you can now call yourself a navigator

Field Excercise Map

