THE DUKE OF EDINBURGH'S AWARD

# Expedition Training

# Navigation

THE DUKE OF EDINBURGH'S AWARD

TIMPERLEY CENTRE

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## Map scales

**OS 1:50,000 Landranger Maps**
1cm = 50, 000cm
1cm = 500m
1mm = 50m
2cm = 1km *(Grid square)*

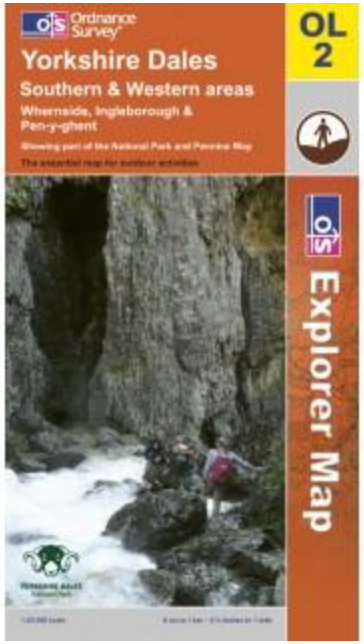

**Harvey 1:40,000 Maps**
1cm = 40,000cm
1cm = 400m
1mm = 40m
2.5cm = 1km *(Grid square)*

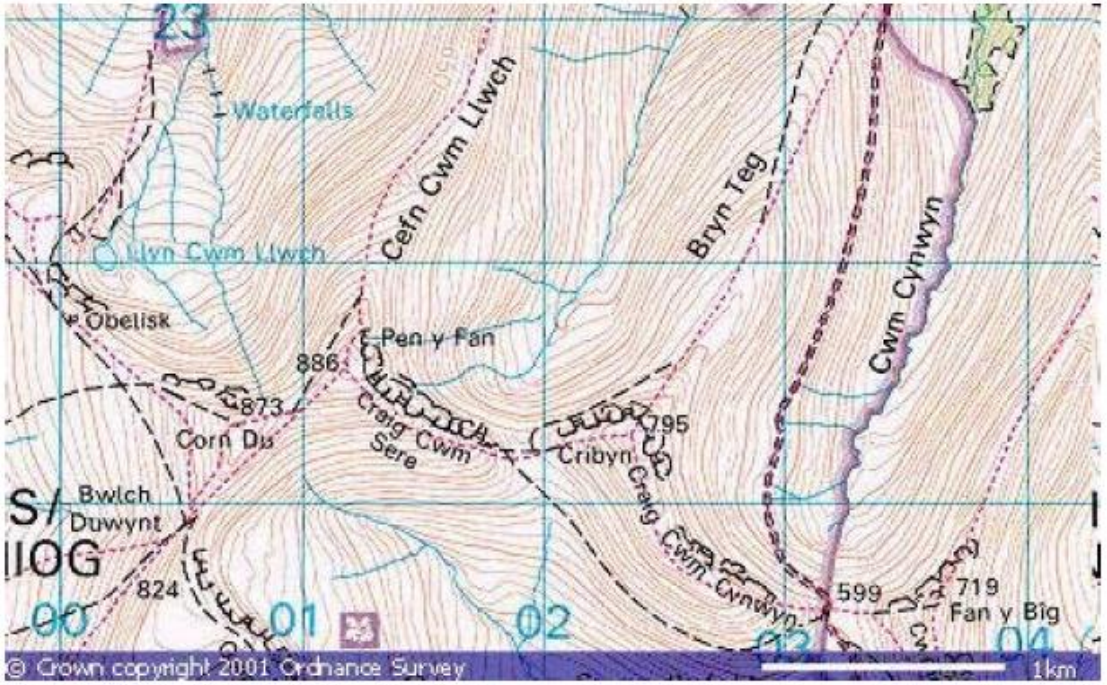

**OS 1:25,000 Explorer Maps**
1cm = 25, 000cm
1cm = 250m
1mm = 25m
4cm = 1km *(Grid square)*

**Orienteering Map 1:10,000**
1cm = 10,000cm
1cm = 100m
1mm = 10m
10cm = 1km

**Small** scale maps = **smaller** amount of detail (cover a large area eg: 1:50,000)
**Large** scale maps = **larger** amount of detail (cover a small area eg: 1:10,000)

- Scale
- Symbols
- Grid references
- Contours
- Route planning

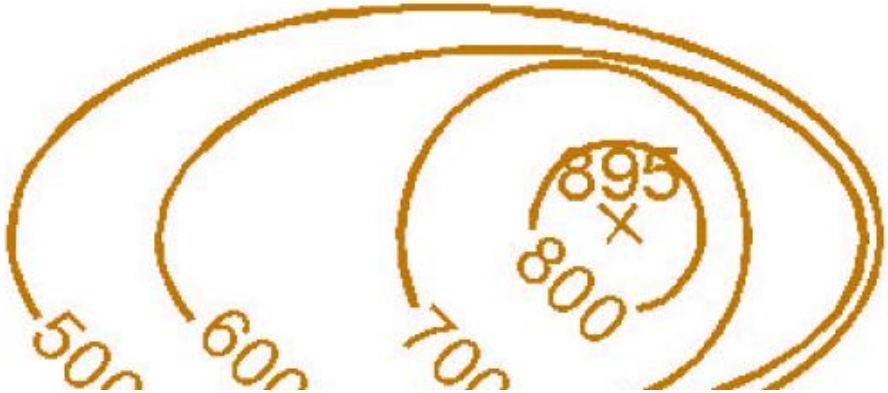




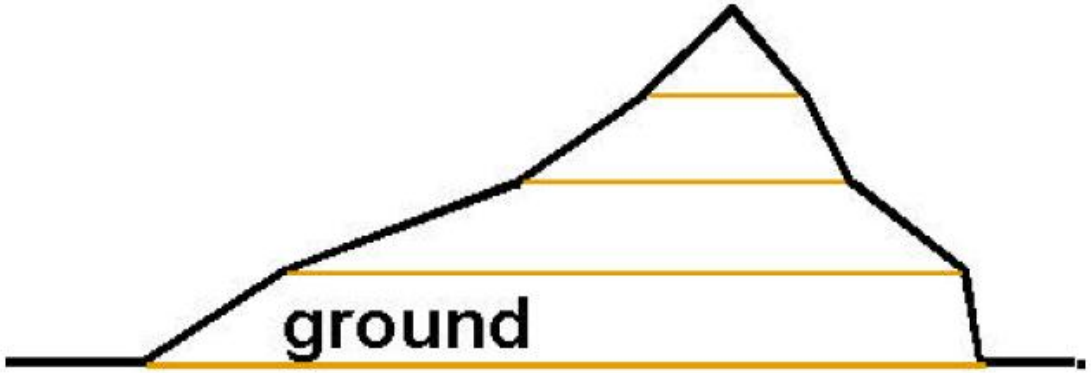

## Map Contours

Contour lines show the height above sea level (in m)

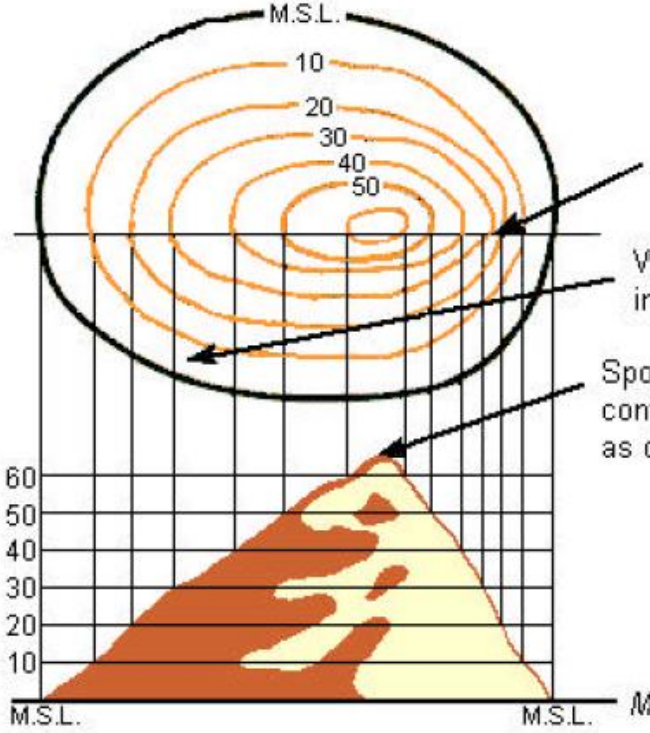
The closer the lines the steeper the slope.




Most maps have contour lines every 10 m.




Hill top
Valley or re-entrant
Ridge
Spur
Saddle (pass, col)




When close together, contour lines indicate a steep slope.

When far apart, contour lines indicate a gentle slope.

Spot elevations are heights between contour lines, and are shown on a map as dots with a value beside them.

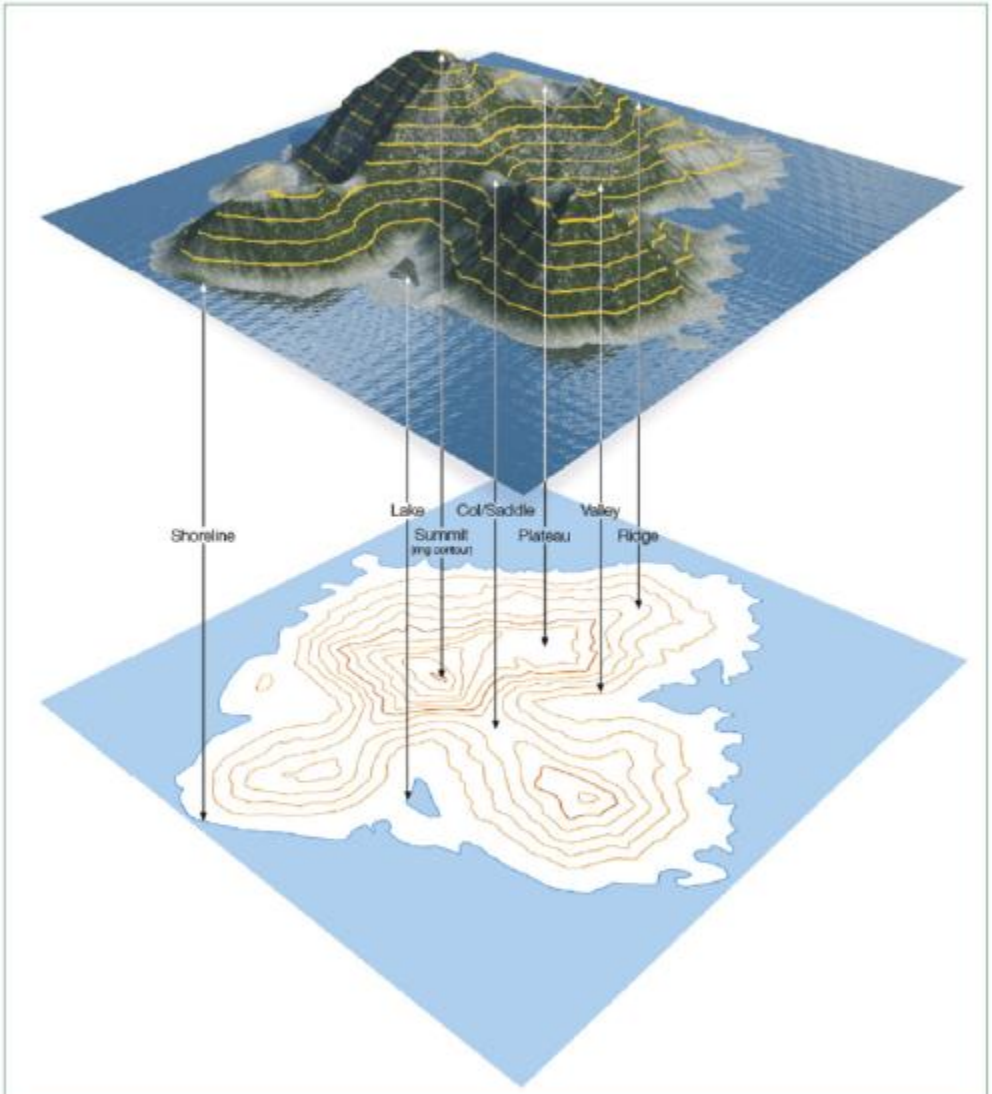



FIGURE 1.08 CONTOURS AND SIMPLE CONTOUR SHAPES

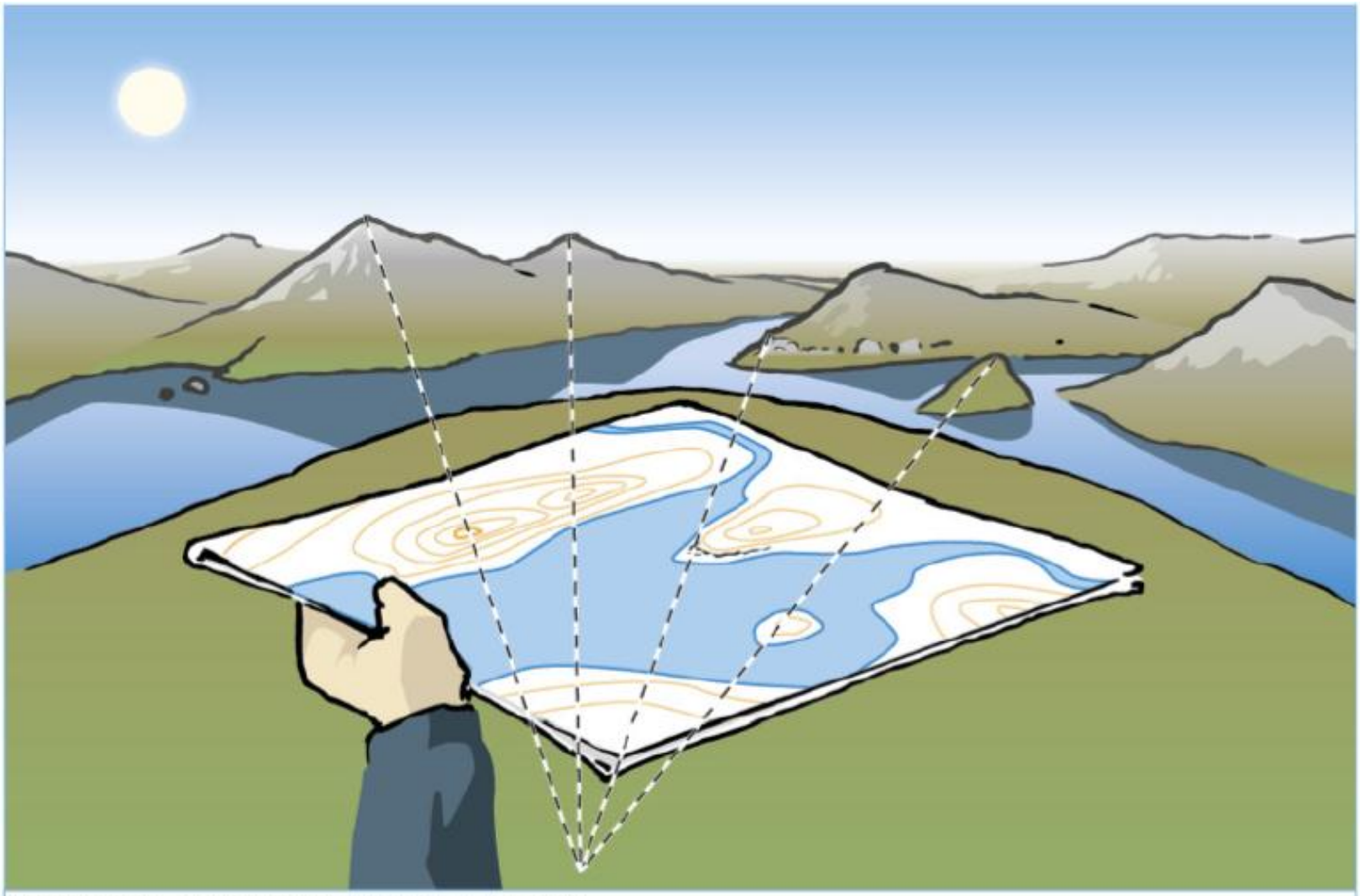


FIGURE 2.04 SETTING THE MAP USING FEATURES

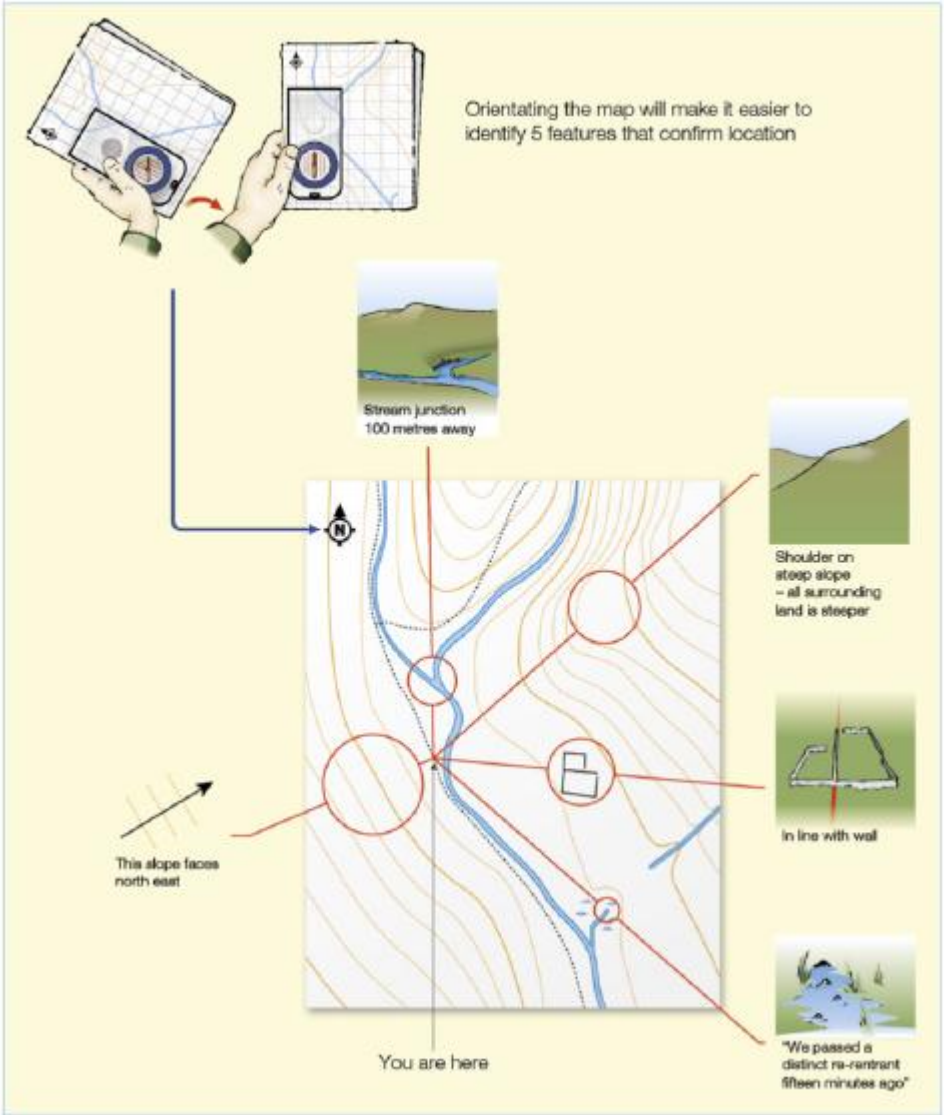



FIGURE 2.45 FIVE FEATURES CONFIRMING LOCATION

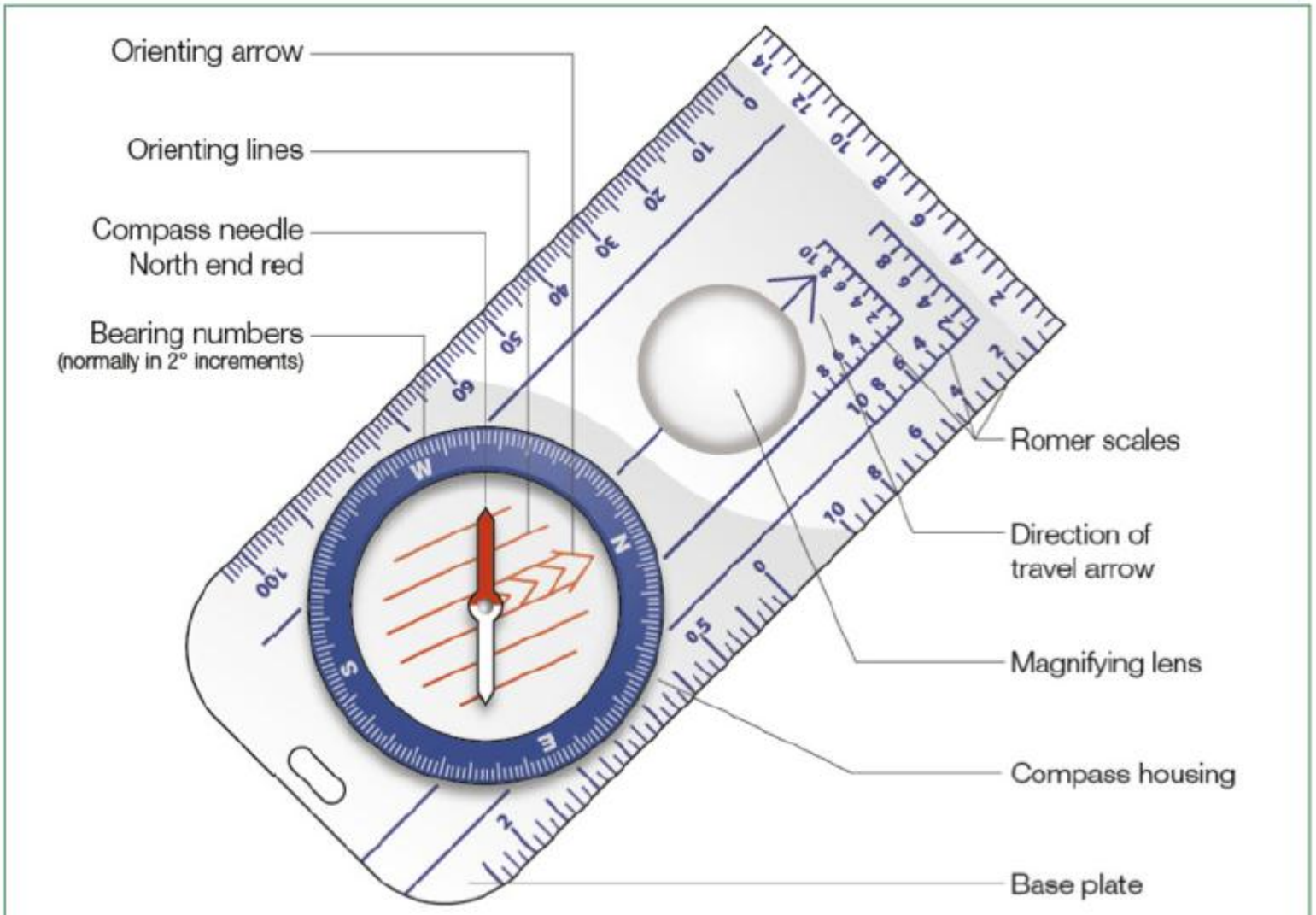



FIGURE 1.13 THE BASE-PLATE STYLE COMPASS (EG: TYPE 4 SILVA)

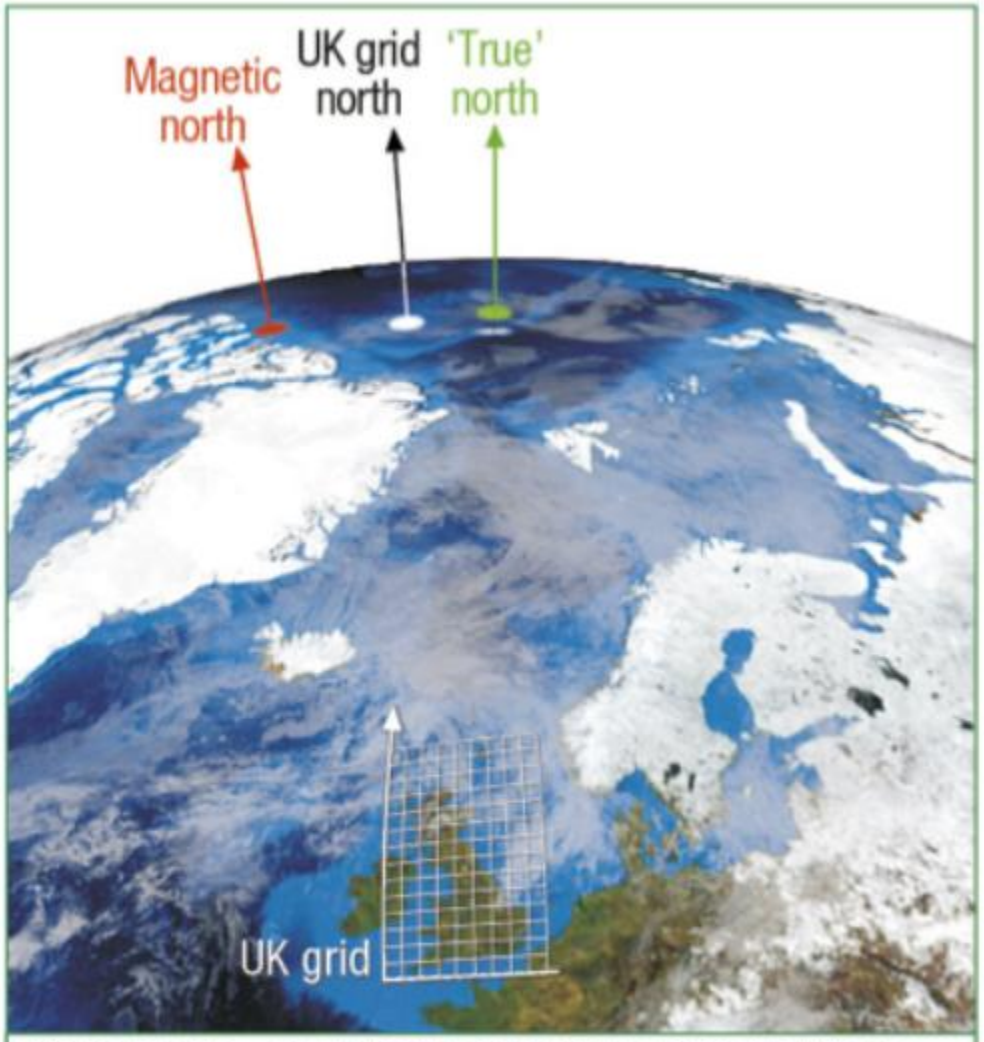



FIGURE 1.19 GLOBE SHOWING THE RELATIONSHIP BETWEEN THE THREE NORTHS

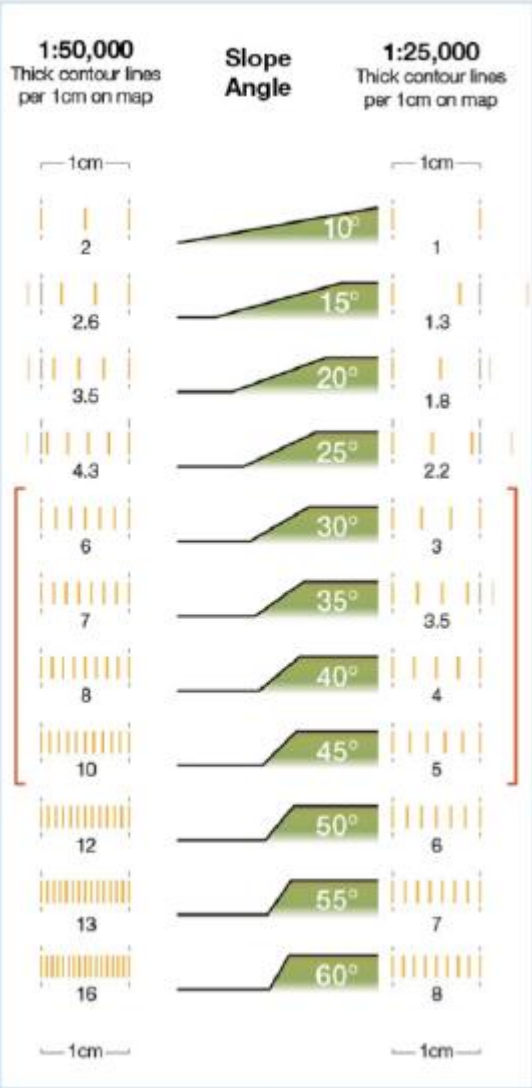



FIGURE 2.07 RECOGNISING SLOPE ANGLE FROM CONTOUR SPACING

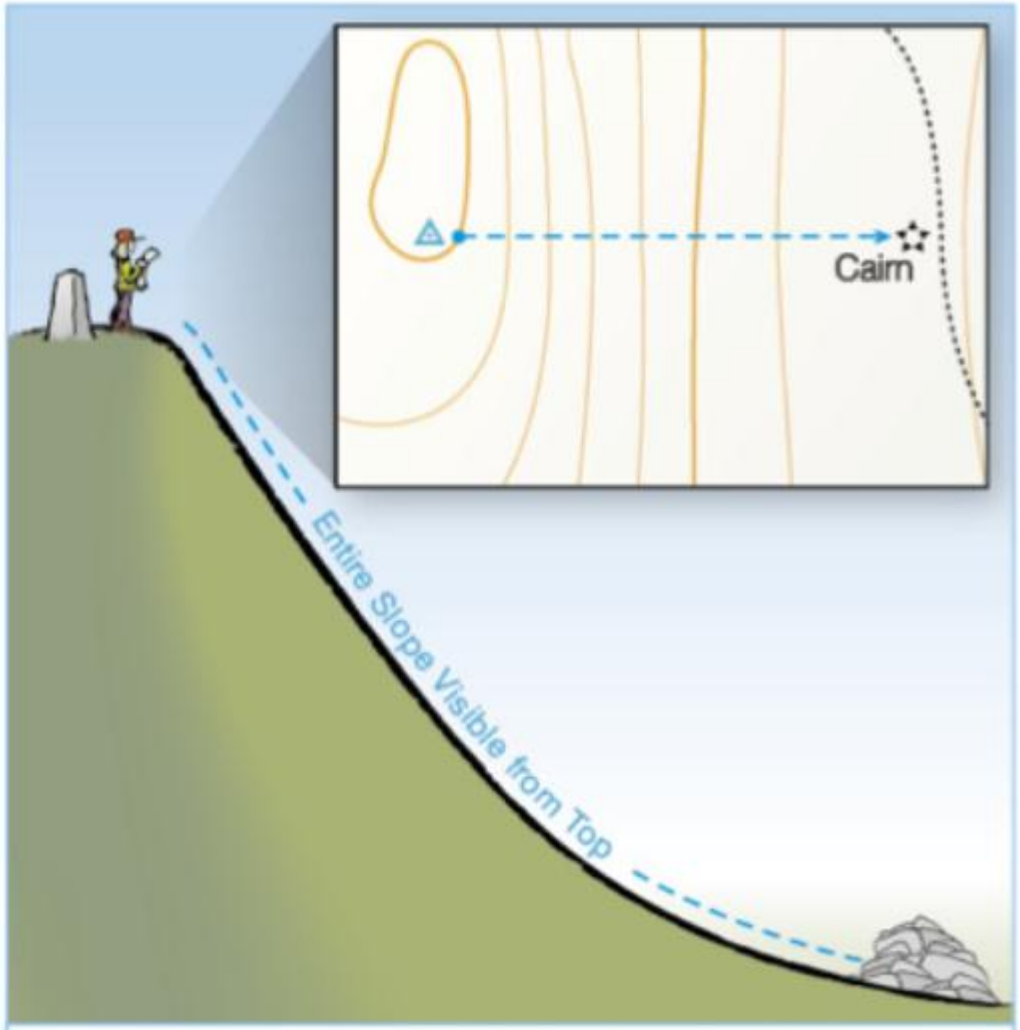



FIGURE 2.08 CONCAVE SLOPE – CAIRN AND PATH VISIBLE FROM ABOVE

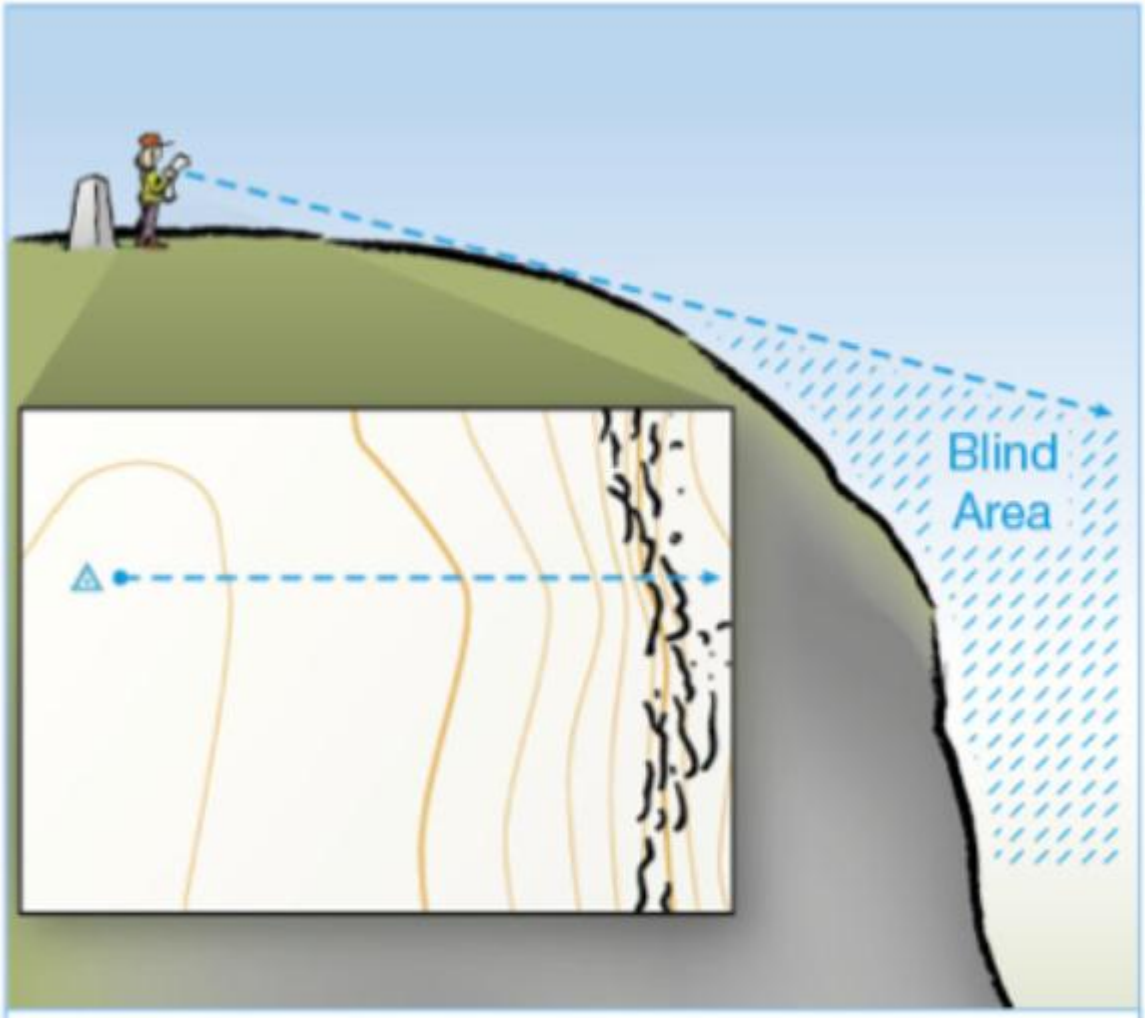



FIGURE 2.09 CONVEX SLOPE – CLIFF HAZARD NOT VISIBLE FROM ABOVE

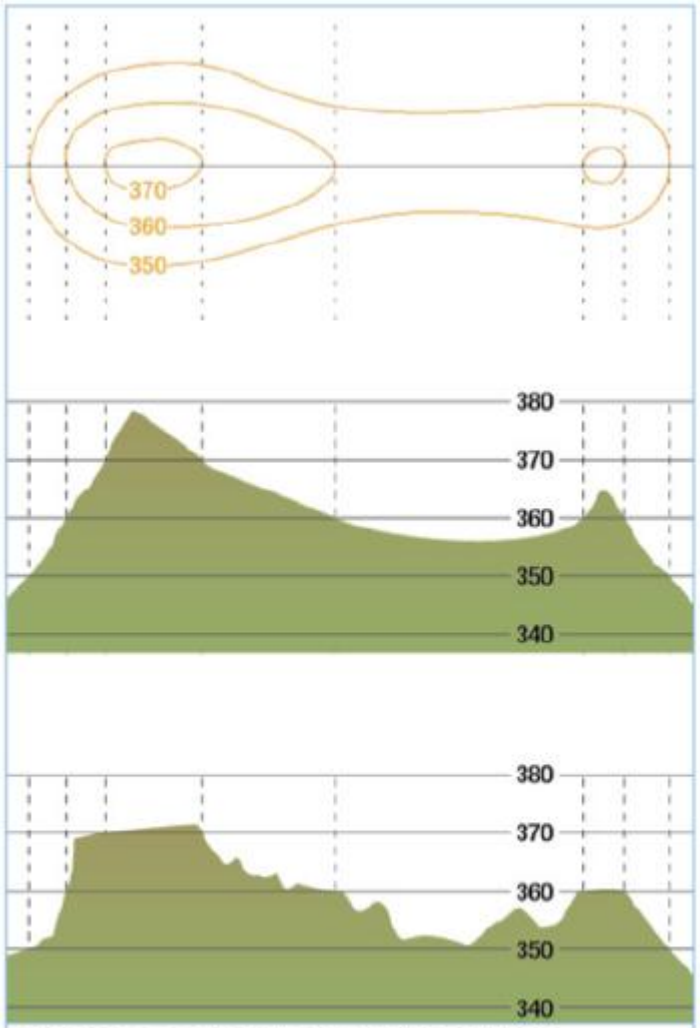



FIGURE 2.12 READING BETWEEN THE LINES: TWO DIFFERENT BUT EQUALLY POSSIBLE INTERPRETATIONS OF THE SAME MAP

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- **Naismith's Rule (1892)**
- 4Km per hour
- 300m per hour ascent
- + 1 minute for each 10m contour
- + 5 mins each thick contour
- Ground conditions
- Allow for breaks & lunch

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