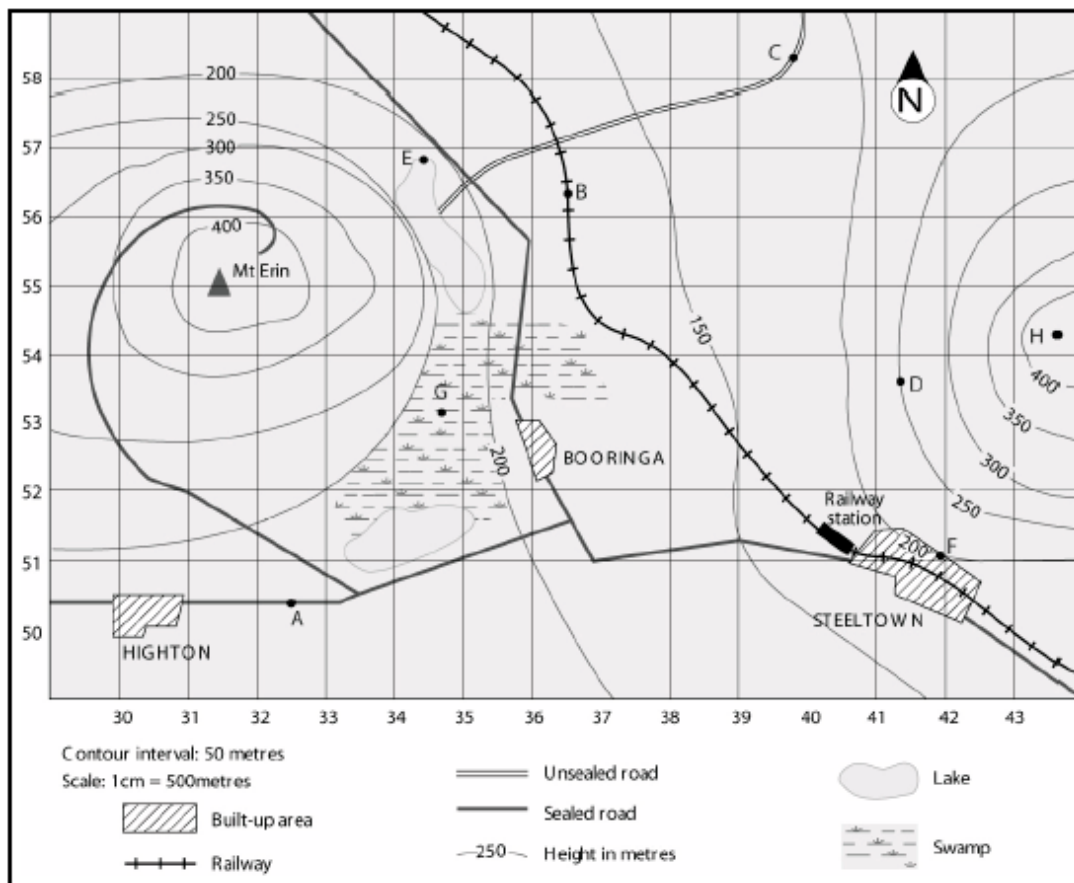


Topographic mapping skills

A topographic map shows the varying shapes, heights and slopes of a landscape using **contour lines**. That's why they are so useful for bushwalking, property mapping and even town planning. Contours are lines that connect points at the same height above sea level and are plotted using vertical aerial photographs. The closer these contours are — the steeper the gradient. However, the height difference between one line and the next is always the same throughout the map. This is called the **contour interval** and on the map overleaf it is 50 metres. Topographic maps are included on the pages of sources listed in the References.

Topographic maps also detail both the natural and human features of a landscape. Natural features include forests, rivers, lakes, mangroves, mountains and beaches while human features include roads, ridges, fences, buildings, parks, railways and mines. Topographic maps use conventional symbols to represent all these elements and their meanings are explained in the **map key** or **legend**. Different colours are also used to indicate certain objects. For example: brown is used for natural features including contours and ridges; blue is used for all water and river features; green is used for vegetation and ground cover; and black and red are used for human features such as roads, railways and buildings.

Finally, topographic maps are overprinted with grid lines to help us locate the different places. These vertical and horizontal lines are all given two-digit numbers in the map margins called **area references**. The lines running up and down the map (north/south) are called **eastings** because the numbers increase the further east they are. The lines running across the map horizontally (east/west) are called **northings** because the numbers increase the further north they are. In an area reference, the eastings are given first then the northings, making a four-figure number. For example, point H on the map overleaf is roughly located at AR4354. The letters AR stand for Area Reference.



Look at the extract from a simple topographic map featured on the first page of this worksheet. Use it to answer the questions below.

1. How much higher is the land at point D than at point F? How do you know?

2. How do you know that Mt Erin is more than 350 m above sea level?

3. (a) If you walked from the railway station to Mt Erin, how many metres would you have climbed?

 (b) Which part would be the flattest section of your journey to Mt Erin?

4. At what area reference does the unsealed road and railway line intersect?

5. (a) Which is the steepest face of Mt Erin — its northern or southern face?

 (b) How do you know?

6. Which is the highest town above sea level — Highton, Booringa or Steeltown? Explain how you know?

7. What map points are located at the following ARs?
 (a) 3250
 (b) 4251
 (c) 3958
 (d) 3656
8. In which direction would you travel to reach point D from:
 (a) point C?
 (b) point G?
 (c) point H?
 (d) point F?
9. Using the map key or legend, write down what exists at:
 (a) point A
 (b) point G
 (c) point E
 (d) point F
10. What is the height of the land at the following points?
 (a) point B
 (b) point D
 (c) point H
 (d) point E
11. Create a cross-section of this topographic map using the worksheet: **Contour and cross-section skills** as a guide.