useful, for example, when describing the location of an injured colleague. When giving an eight-figure reference, you must be absolutely certain that you are at that location.

Many GPS receivers and smartphones provide grid references of up to 10 figures -1 m accuracy. This is great in theory but just consider what that means on a $1: 25,000$ map, where 100 m is represented by $4 \mathrm{~mm}, 10 \mathrm{~m}$ is 0.4 mm and 1 m is the equivalent of 0.04 mm on a map. It's impossible to distinguish detail at this level on a 1:25,000 map.

## PRACTICAL EXERCISE

Using Figure 2.17 work out the six-figure and, if you can, eightfigure grid references for the marked points. Estimate the six-figure references first by eye and then using a 1:50,000 Romer scale or the scale on the compass edge (for the answers, see Appendix A).

Figure 2.17 Grid reference exercise


