

Figure 1-31. The little brown lines around location Z are called hachures. What do they indicate about location Z?

Here are a few simple rules about contour lines and contour intervals.

1. Contour lines always make a closed circle. If a contour line ends on the side of a map, it would be continued on the next map.
2. Contour lines inside the closed contour lines are always higher, unless otherwise indicated by hachures.
3. Contour lines can never cross.
4. Closely spaced contour lines indicate a steep slope. Contour lines that are far apart indicate a gentle slope.
5. A contour interval is always an even multiple, such as an interval of 10 or 20.
6. Once established, the contour interval on a map never changes.
7. Contour lines always bend toward the higher elevation when they cross a stream.

Check yourself

1. How does a topographic map differ from other kinds of maps?
2. Why do contour lines indicate changes in shape as well as elevation?

What do closely spaced contour lines indicate?

Topographic maps

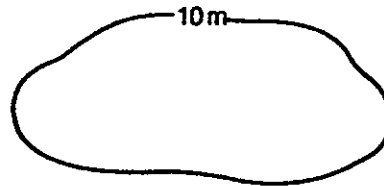
The earth's surface is not all the same level. The earth's surface has many ups and downs. It has plains, mountains, valleys, and many other features which you have seen. There are maps that show the ups and downs and the shapes of the earth's surface features. These maps are called **topographic maps**. The word *topographic* comes from two Greek words that mean a place (*topos*) and a representation by means of lines (*grapha*).

The shapes and elevations, or the **topography**, of a place can be indicated on a map in a number of ways. But the most accurate way is to use contour lines. A **contour line**, which is colored brown, connects places that have the same elevation, or

the same height above sea level. Any land elevation is always measured from the level of the sea, which is zero elevation. Contour lines also indicate the shape of land features at various elevations.

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Figure 1-29. On a topographic map, this drawing indicates an oval-shaped elevation that is 10 m above sea level. How can you tell that the elevation is oval shaped?



Contour lines are not drawn for every separate elevation above sea level. Contour lines are drawn only at certain regular intervals of elevation. Each interval, which is called the **contour interval**, might be 5 m apart, or 10 m apart, or even 20, 25, 50, or 100 m apart. The **contour interval** is the difference in elevation between any two contour lines on a topographic map. The contour interval in Figure 1-30 is 10 m.

Figure 1-30. The contour interval is the difference in elevation between contour lines. In this drawing, what is the contour interval?

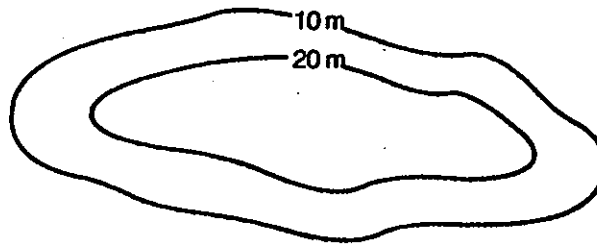


Figure 1-31 shows another feature that is possible to show on a topographic map. Location Z on the map is a hole or depression. This is shown on the map by means of the short brown lines that are drawn from the contour line. These little lines, which indicate direction of slope, are called **hachures**, pronounced either (huh-SHOORZ') or (HASH'-oorz).

There is another feature that you will notice as you look at various topographic maps. It is not necessary to number every contour line. In some cases, all those numbers would clutter the map and make it unreadable. One solution is to number only every fifth contour line and to make that numbered line a darker brown.

Is it necessary to number every contour line?