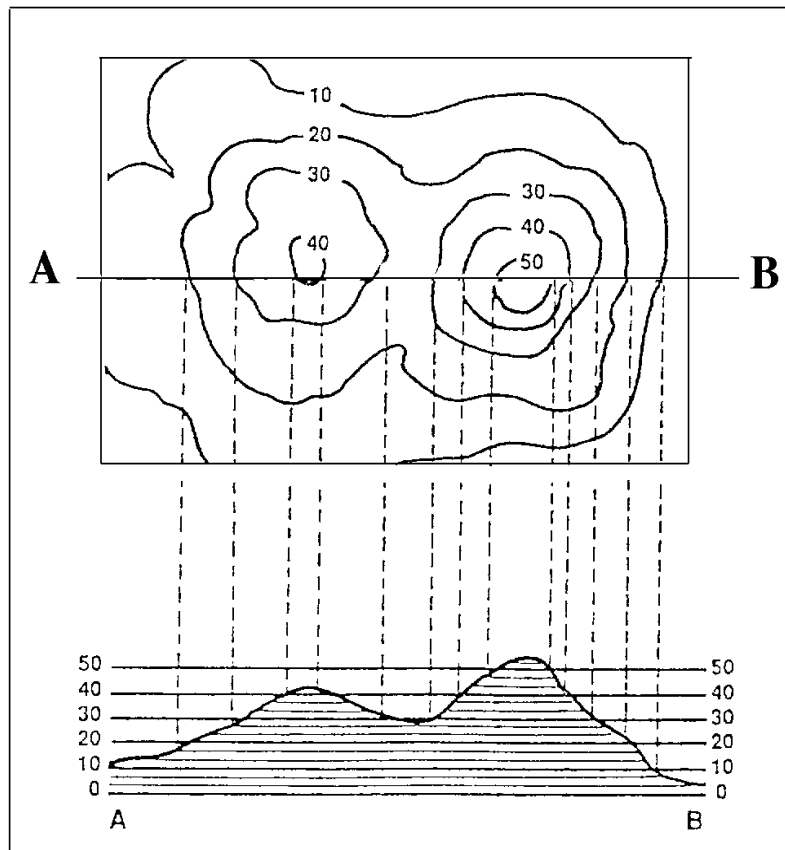


## HOW TO READ A TOPOGRAPHIC MAP

(adapted from a U.S. Geological Survey publication)

A topographic map is different from a road map because it shows the shapes and elevations (the height) of land with *contour lines*. Contour lines are lines that connect places with the same elevations and are sometimes called level lines because they show points that are at the same level. For example, if the number 5 is written on a contour line of a topographic map, you know that every place along that line is 5 feet high. Here's how topographic maps work.



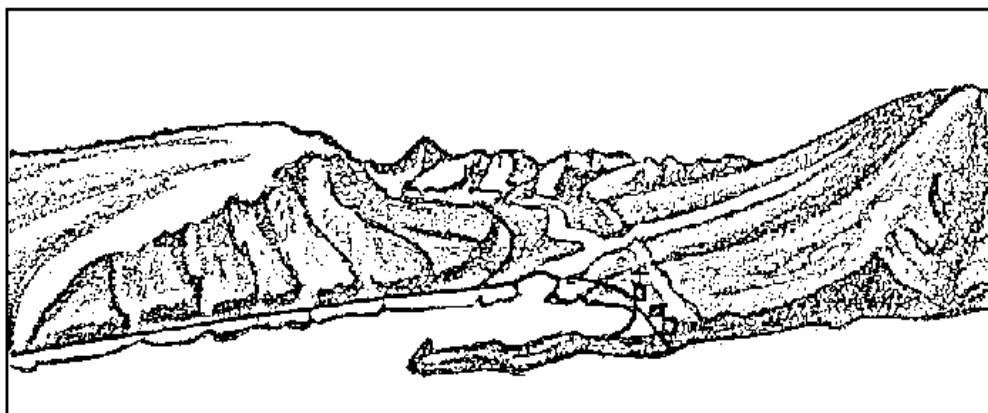
This diagram shows two different ways of looking at the same landscape. The top part of the diagram is a topographic map of the hills illustrated in the lower part of the diagram. In the topographic map, you are looking down at the hills from above, but in the lower drawing, you are looking sideways at the hills. If this is confusing to you, do this exercise with your hands. Interlock the fingers of both your hands together and hold them in front of your stomach. Look down at the top of your hands. This is what you "see" in the topographic map. Keeping your fingers together, move them up in front of your eyes so that you're looking at your thumbs. This

is what you're "seeing" in the lower drawing. The dashed lines connect the same places on both the map and the drawing. In the drawing you'll notice that the height or elevation of the hills goes up by 10 foot steps. The contour lines on the topographic map are also in 10 foot intervals.

- 1.) Which is higher, hill A or hill B? Which is steeper, hill A or hill B?
- 2.) How many feet of elevation are between the contour lines?
- 3.) How high is hill A? How high is hill B?
- 4.) Are the contour lines closer together on hill A or hill B? What does this mean when the contour lines are close together?

You may stop here.

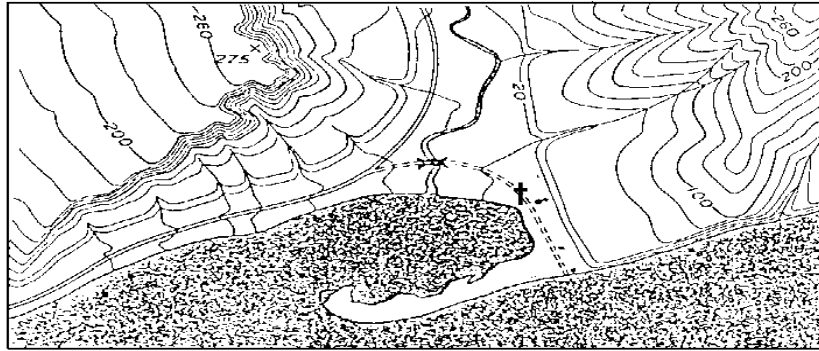
Now look at this next drawing. It shows a river valley, a spit of land, and several nearby hills.



Use colored pencils to circle the places you'll locate on this drawing. Locate and draw a colored circle around each of the following:

- 1.) a road along the coast
- 2.) a stream that flows into the main river
- 3.) a bridge over the river
- 4.) a hill that rises steeply on one side and more smoothly on the other.

Here is a topographic map showing the same area. Topographic maps use symbols for certain features like roads and bridges. Look at the topographic map on the next page and find the same places that you found on the figure above.



- 1.) Circle the symbol for a church and draw that symbol here.
- 2.) Put a square around the map symbol for a bridge and then draw the bridge symbol here.
- 3.) Put an X on the oceanside cliff.
- 4.) What is the elevation of the contour line at the top of that cliff?
- 5.) Locate a stream that flows to the main river. Draw a colored line down that stream. Put an \* where the stream joins the main river. On a actual topographic map, streams are shown in blue and contour lines are shown in brown.
- 6.) Draw a colored line along the road that is found along the coast.