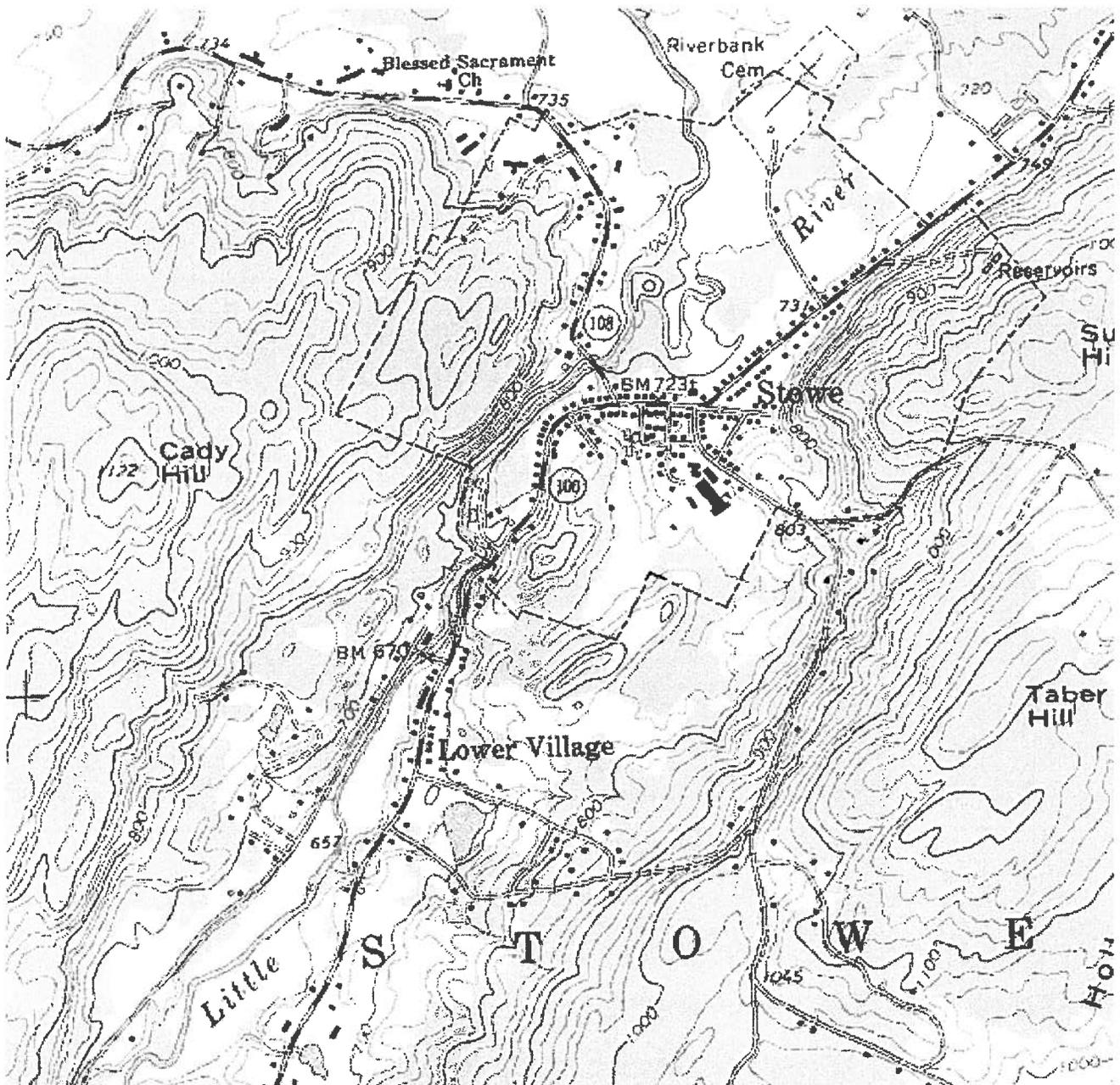
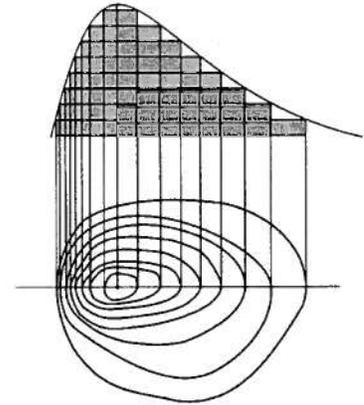


# Determining Elevation Through the Use of Contour Lines

Contours are one of several common methods used to denote elevation or altitude and depth on maps.

In cartography, a **contour interval** is any space between contour lines, representing a difference in elevation between the lines. When calculated as a ratio against the map scale, a sense of the hilliness of the terrain can be derived.



Name \_\_\_\_\_ Date \_\_\_\_\_

### DETERMINING ELEVATION BY READING CONTOUR LINES

The map on the facing page is a topographical-type map. Such maps show both natural (physical) and cultural (political) features.

Topographical maps tell elevation through the use of *contour lines*. Contour lines show how high a place is above the level of the sea. Every place on a line is the same distance above sea level.

Places in-between contour lines cannot be shown exactly. However, if a place is between the 20' contour line and the 40' contour line, for example, you know it is somewhere between 20' and 39' above sea level.

Practice reading elevations shown by contour lines by completing the activity below. In all of the questions, the X's show the location of the places.

1. What is the elevation of the:

a. Fire Tower? \_\_\_\_\_

b. Scout Camp?

Between \_\_\_\_\_' and \_\_\_\_\_'

c. Wrecked Jeep? \_\_\_\_\_

d. Log Cabin? \_\_\_\_\_

e. Sea Cave? \_\_\_\_\_

2. Some of the scouts at the Scout Camp decided to hike the trail. They thought that it would take them about two days. They started at 1 on the map (next to their camp). On their way they saw or experienced a number of interesting things.

At what elevations did they see the things listed in the table at the top of the next column?

3. Contour lines tell the *elevation* of places. The space between the lines tells the *distance* between the lines. When the lines are close together it means that the slope is steep; if the lines are far apart, it means that the slope is more gradual.

Object	Symbol	Elevation
Lone Pine Tree		
Copperhead Snake		
Campfire		
Sailboat		
American Flag		
Summer Cottage		
Marina		
Picnic Area		

a. Which is the steeper climb to the Fire Tower?

\_\_\_\_\_ A to the FT \_\_\_\_\_ B to the FT?

b. What is the distance from A to the Fire Tower? \_\_\_\_\_

c. What is the distance from B to the Fire Tower? \_\_\_\_\_

d. Which climb would you prefer? Why?

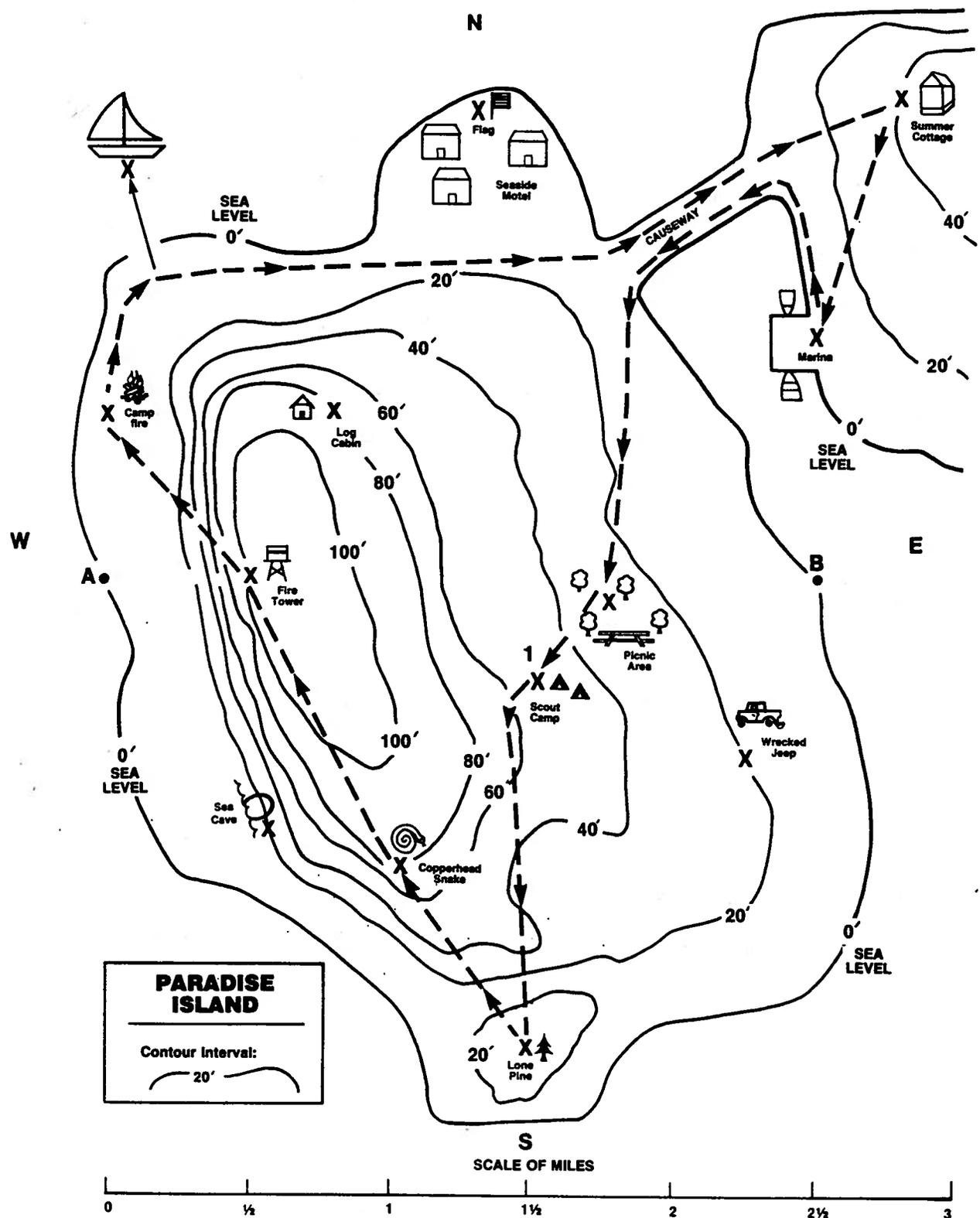
\_\_\_\_\_

\_\_\_\_\_

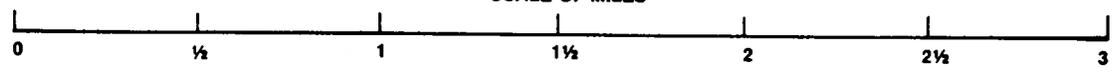
4. What is the total distance on the trail from the Scout Camp to the first camp fire?

About \_\_\_\_\_ miles

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**PARADISE ISLAND**  
Contour Interval:  
20'

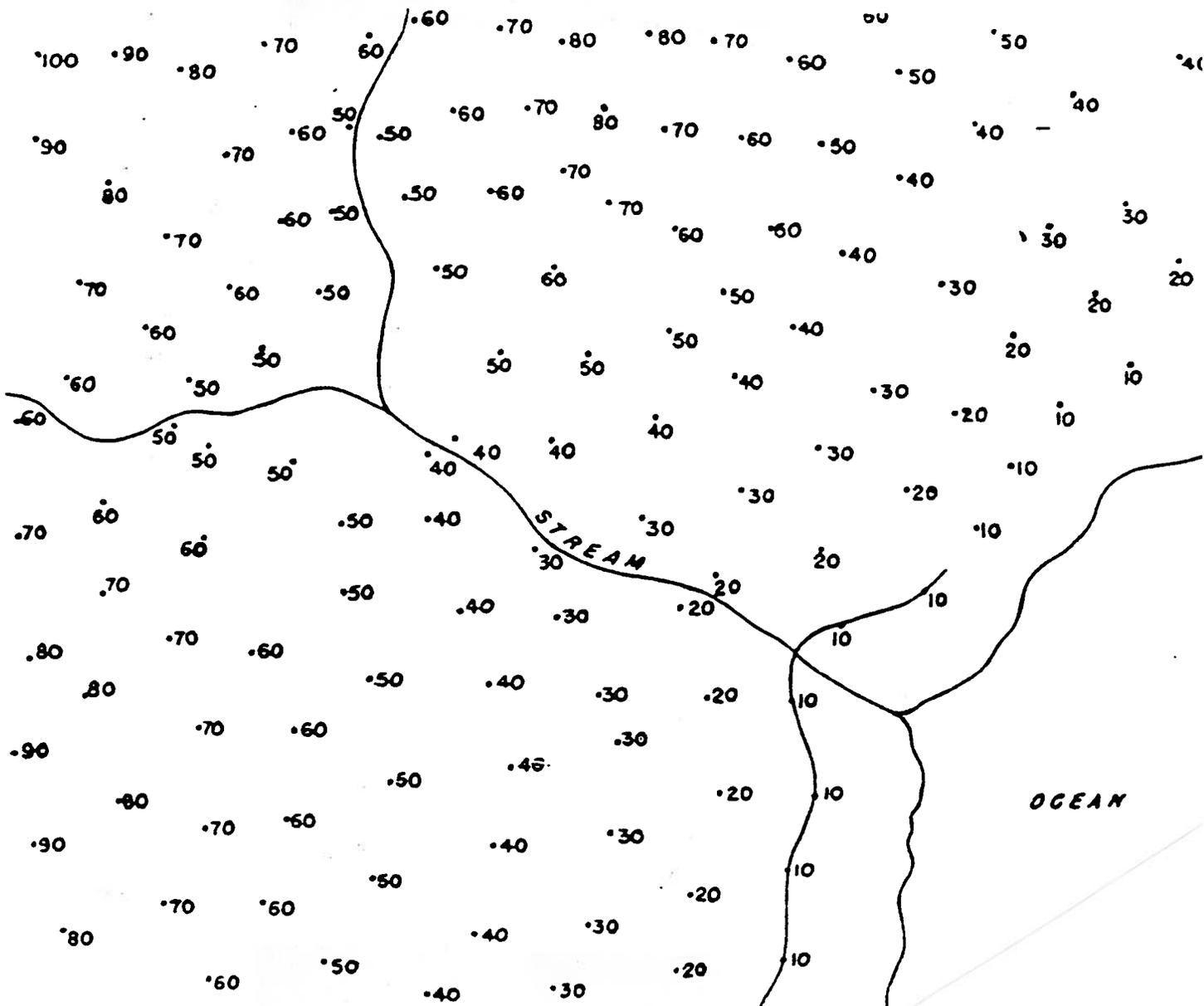


# Drawing Contour Maps

Complete the topographic map below by connecting the points of equal elevation with contour lines. The 10m line is partially drawn for you.

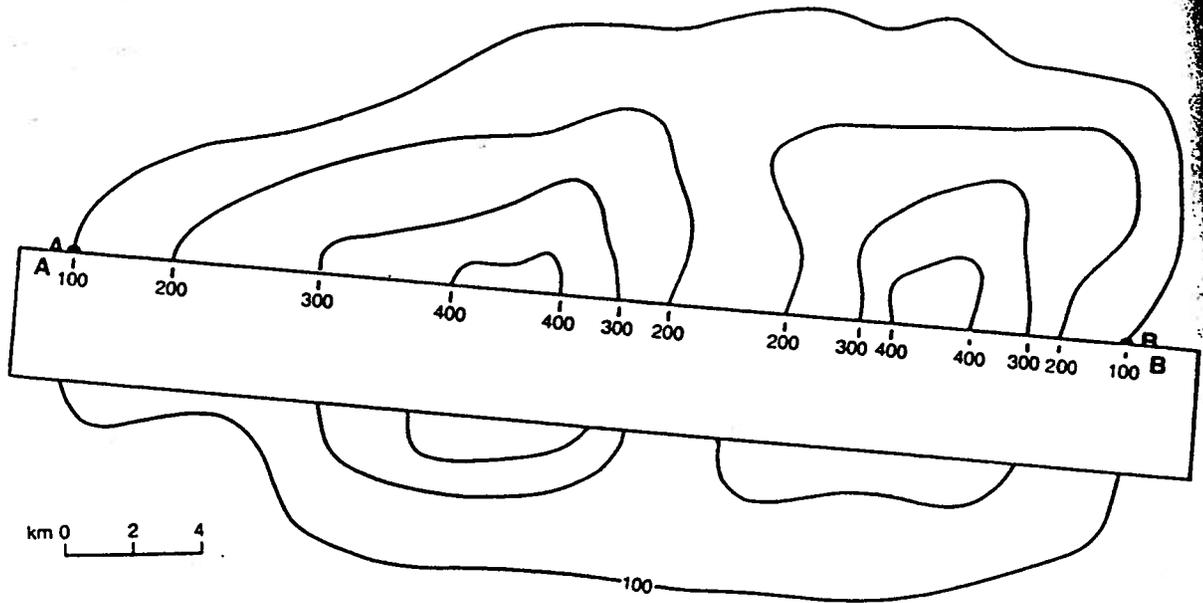
❖ Note how the 10m contour crosses the stream. Do the same for all remaining contours.

1. The contour interval of this map is \_\_\_\_\_
2. What is the lowest elevation of which you are certain? \_\_\_\_\_
3. What is the highest elevation of which you are certain? \_\_\_\_\_
4. If you walked along the 30m contour line would you be walking upslope, down slope or on a level path? \_\_\_\_\_

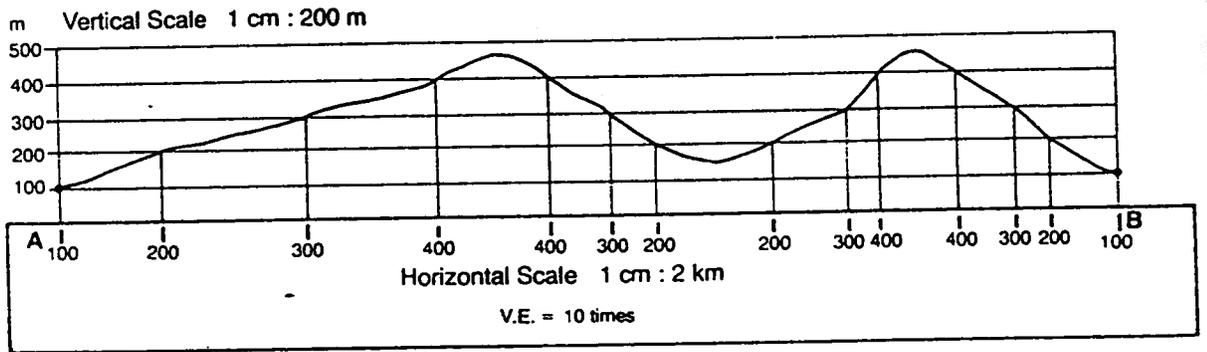


# Accurate Profiles

One method is to construct a profile block, mark the end points and contours on the edge of a sheet of blank paper, then transfer these marks to the base line of the block and complete the drawing of the profile. (See example.)



PROFILE FROM A TO B



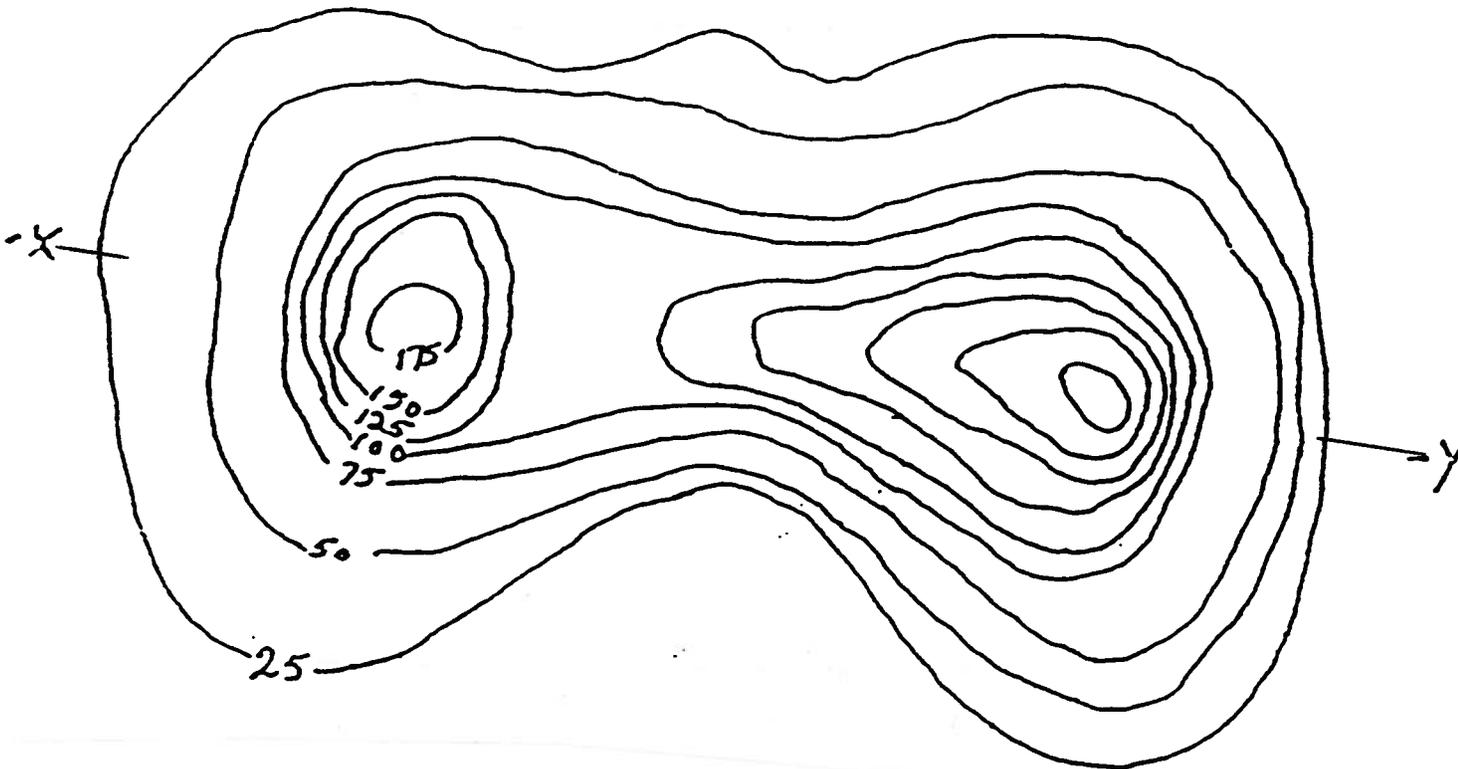
## Decisions to be made in Profile Drawing

In the previous diagram you have to decide where to draw the profile line between the two places where the 400 m contours are next to each other. The same type of decision must be made where the 200 m contours are beside each other.

## Drawing Profiles from Contour Maps

Connect points X and Y on the map using through the lines already made on the 25m contour.

1. Assuming that the top of the contour map is north, where is the steepest slope on the journey from X to Y? \_\_\_\_\_  
\_\_\_\_\_
2. What is the flattest section? \_\_\_\_\_  
\_\_\_\_\_
3. What is the contour interval? \_\_\_\_\_
4. Where is the highest point? \_\_\_\_\_  
\_\_\_\_\_



200	
175	
150	
125	
100	
75	
50	
25	
0	

