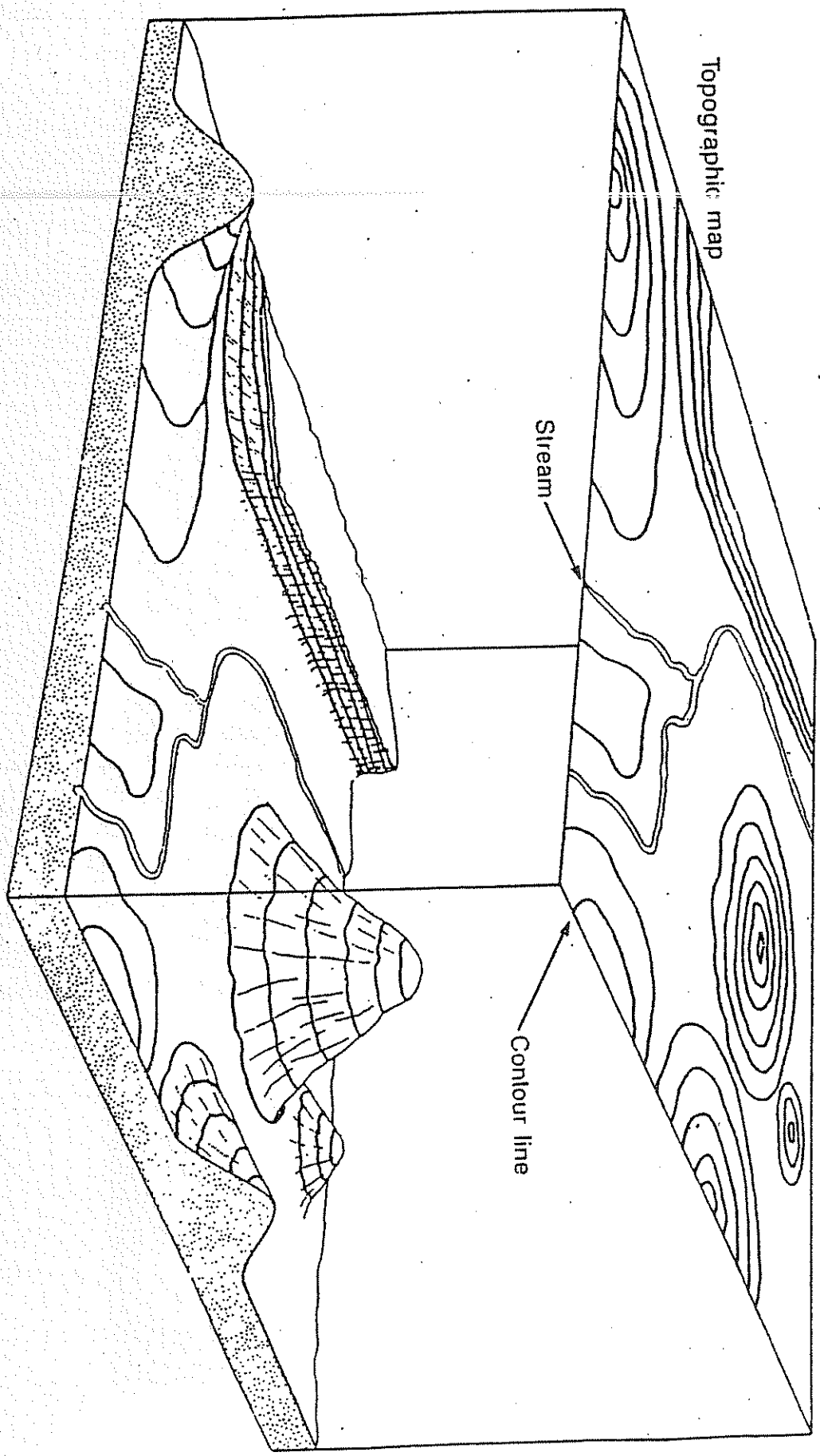


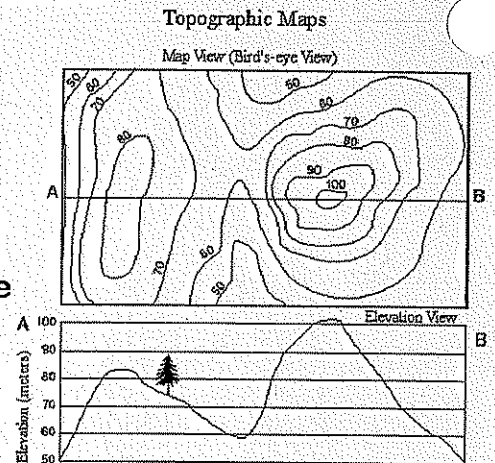
Topographic Mapping



CONTOUR MAPPING AND TOPOGRAPHIC PROFILE

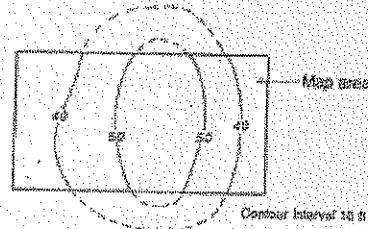
A contour line is a type of isoline connecting points of equal elevation. Topographic maps are scale models of Earth's 3-dimensional surface printed on 2-dimensional paper using contour lines to show elevation and portray the shape of the land.

An understanding of the contours on any map is possible by following a few simple rules. Many landforms can be identified by their characteristic contour line pattern.

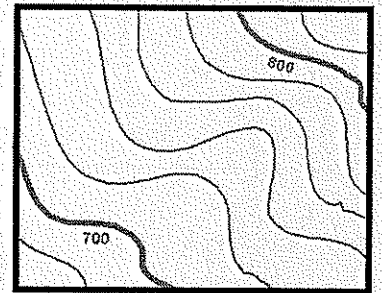


RULES FOR CONTOUR LINES

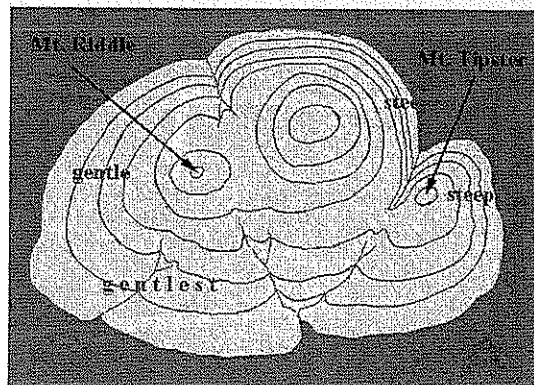
1. Contour lines always close to form an irregular circle, but sometimes part of a contour line extends beyond the mapped area so that you cannot see the entire line.



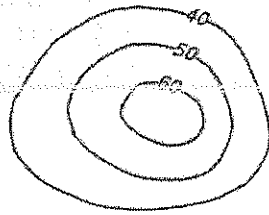
2. The elevation between any two adjacent contour lines on a topographic map is the contour interval. Often every fifth contour line is presented as a heavier line so that you can count by five times the contour interval. These heavier contour lines are known as **index contours** because they generally have elevations printed on them. This may be listed in the key. If not, subtract the difference in the value of 2 nearby contour lines and divide that by the number of spaces between them.



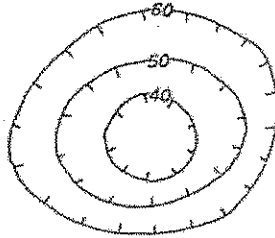
3. The relative amount of gradient can be estimated using the distance between the isolines. Closely spaced contour lines indicate a steep slope. Widely spaced contour lines indicate a gentle slope.



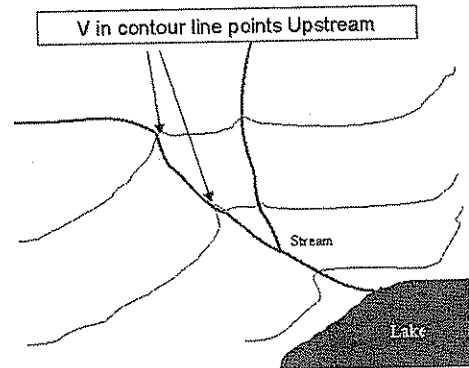
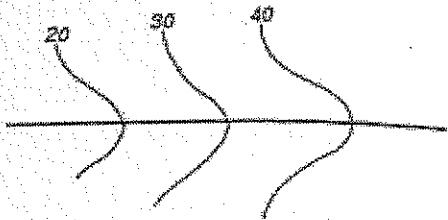
4. A concentric series of closed contours represents a hill.



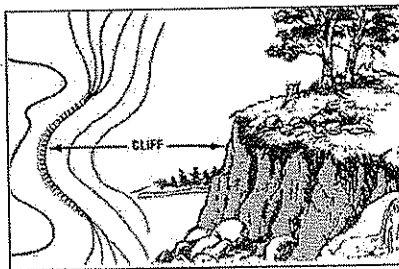
5. Concentric circles that have "tick marks" called hachure marks indicate you are starting to move downhill into a hollow or depression.

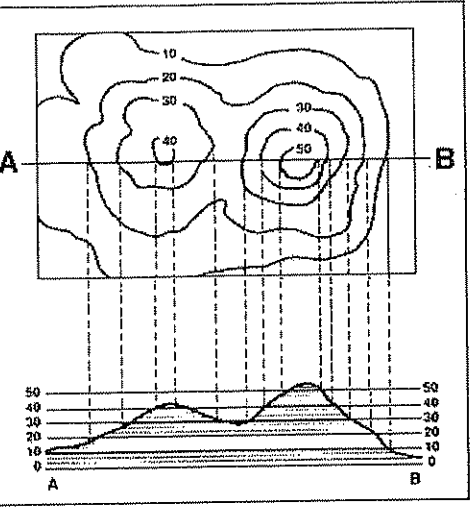


6. Contour lines form a V-pattern when crossing streams. The apex of the V always points upstream (uphill). The river always flows from higher elevations to lower elevations.



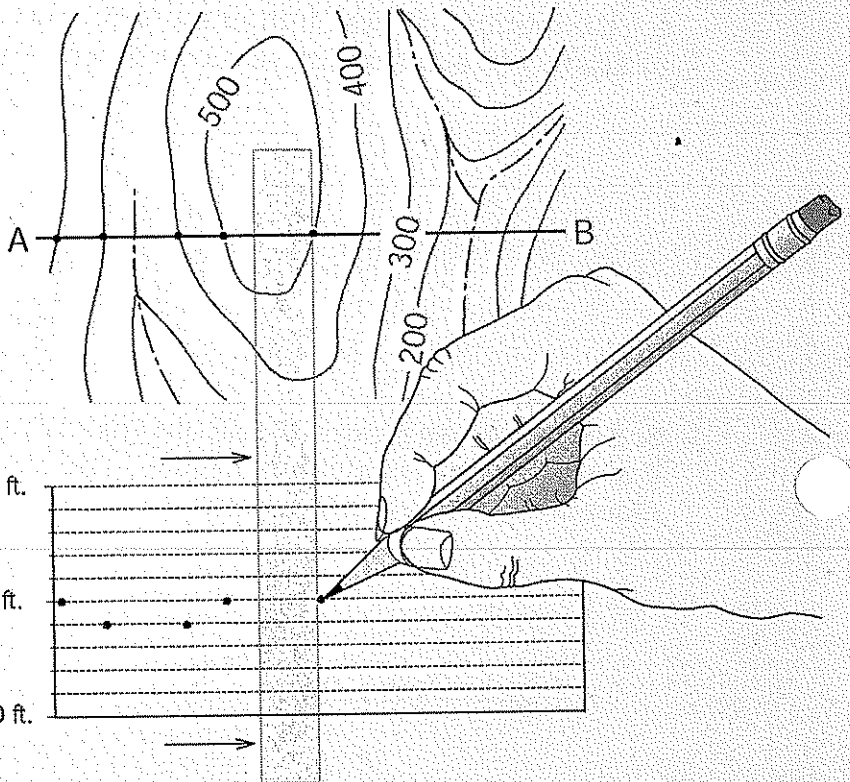
7. Contour lines never cross one other. Contour lines can merge to form a single contour line only where there is a vertical cliff.



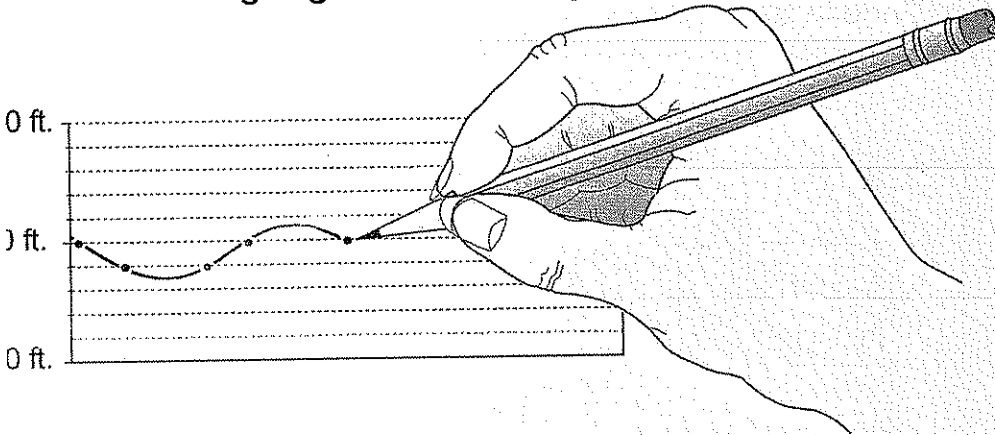


A **topographic profile** is a cross-sectional view along a line drawn through a portion of a topographic map. In other words, if you could slice through a portion of the earth, pull away one half, and look at it from the side, the surface would be a topographic profile.

1. Where a contour line intersects the profile line A-B on the map, project the value of that contour straight down to the guideline of that same value.



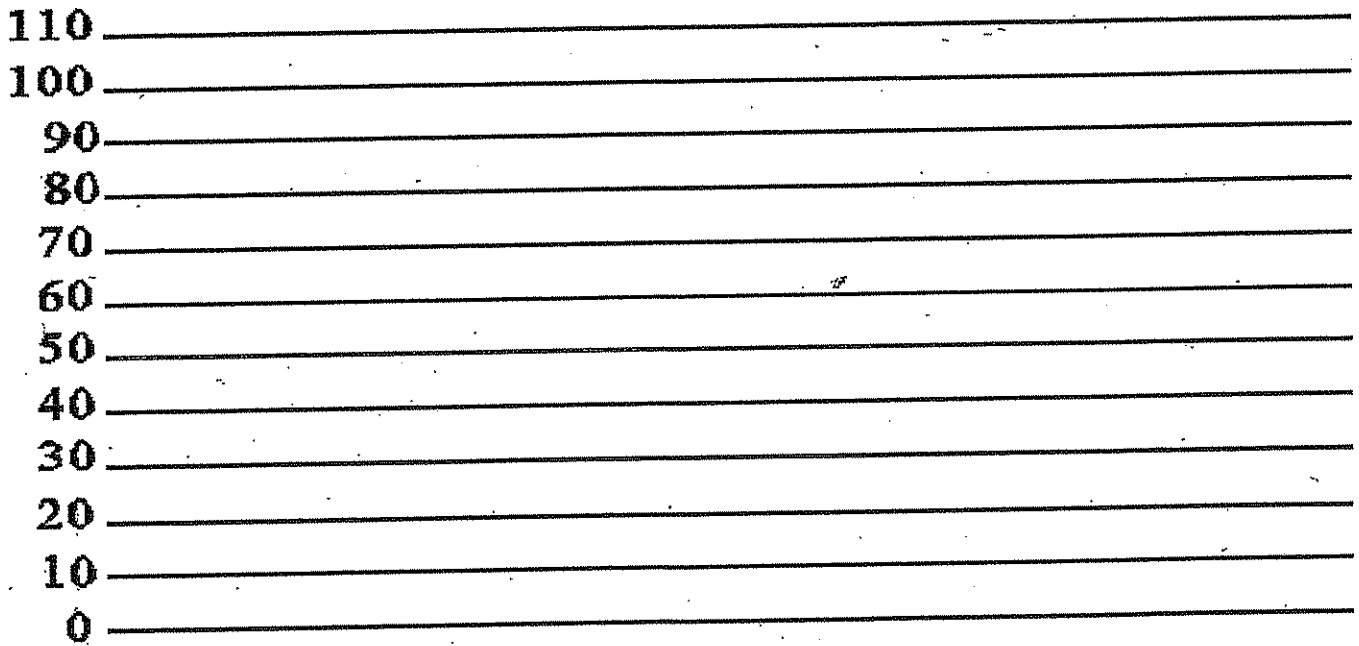
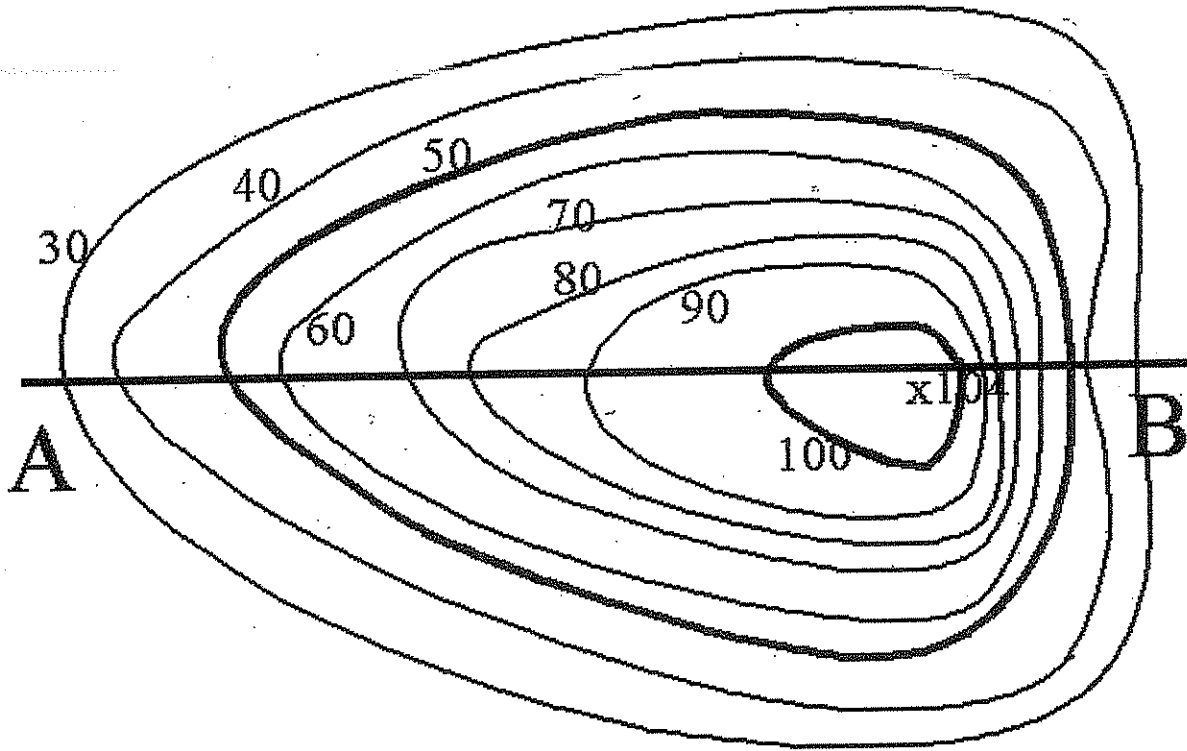
2. Connect the dots on your profile graph. You have just made a topographic profile. Notice the 2 elevations that are the same when you are going down to a valley or basin and then up to a hill. When you



connect your points in a curved line, they either curve up or down without touching the elevation above or below value. **(Never straight across)**

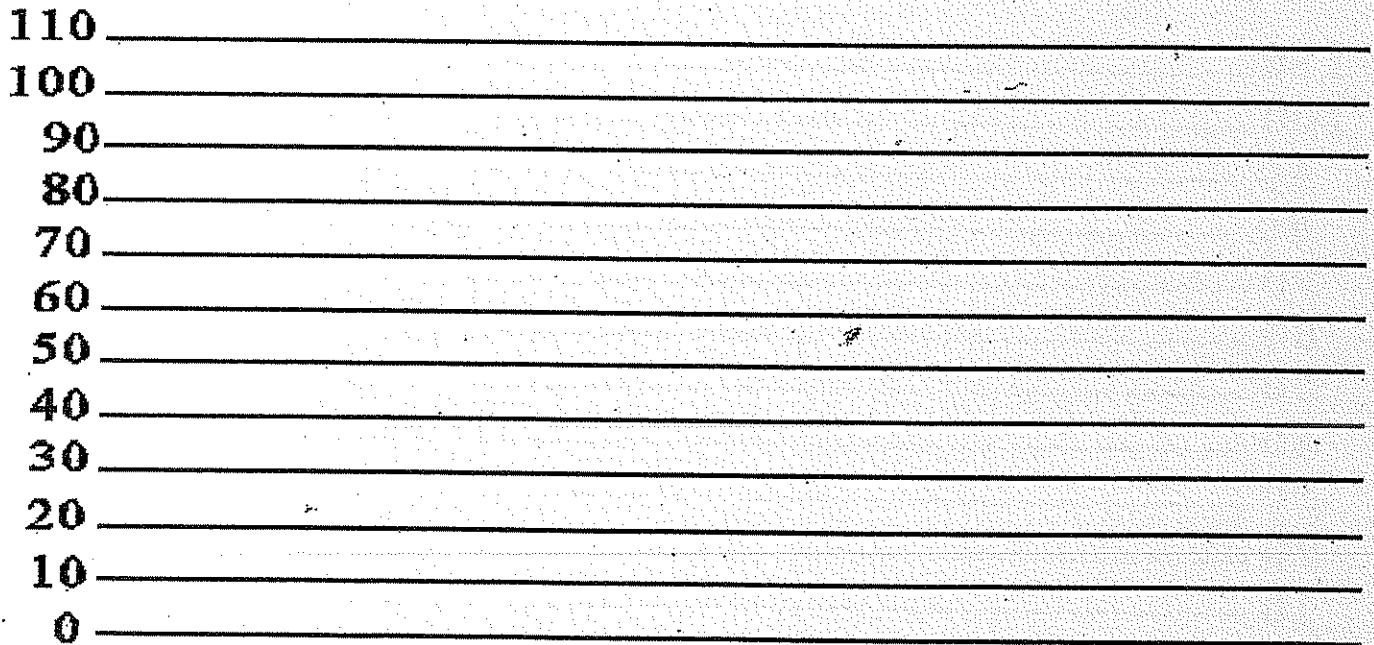
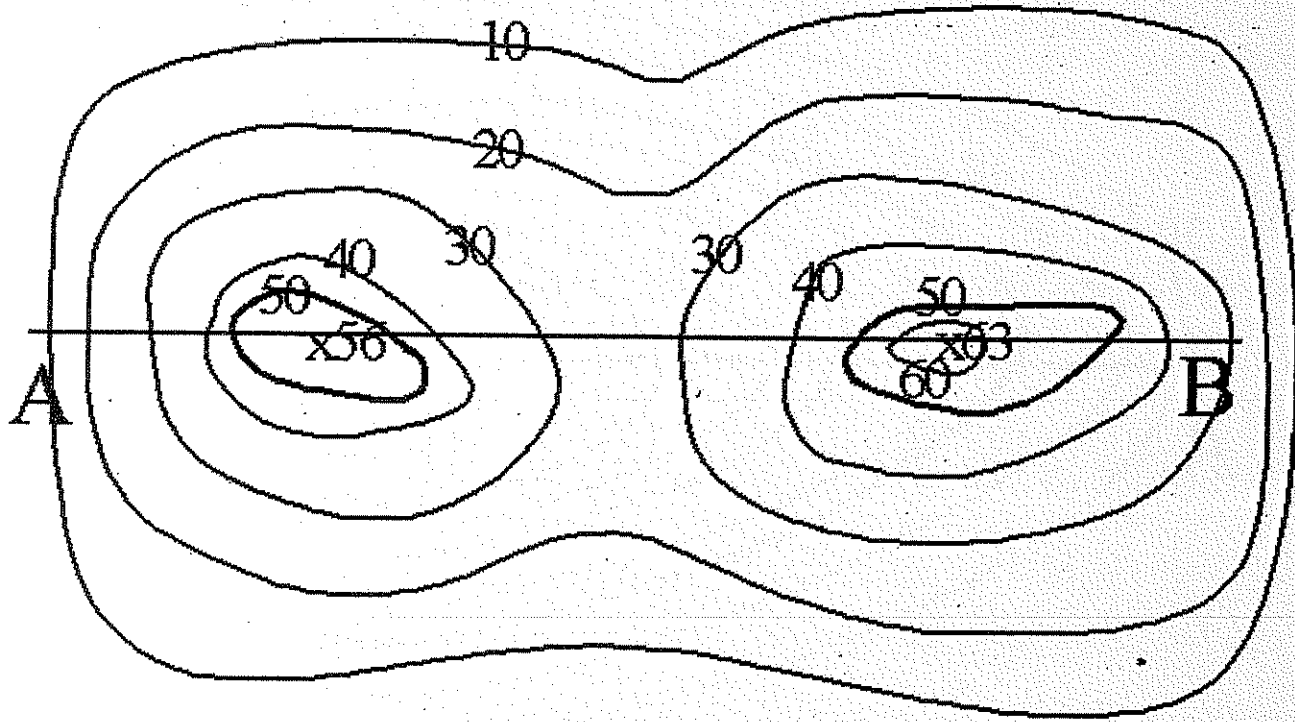
Making a Profile I

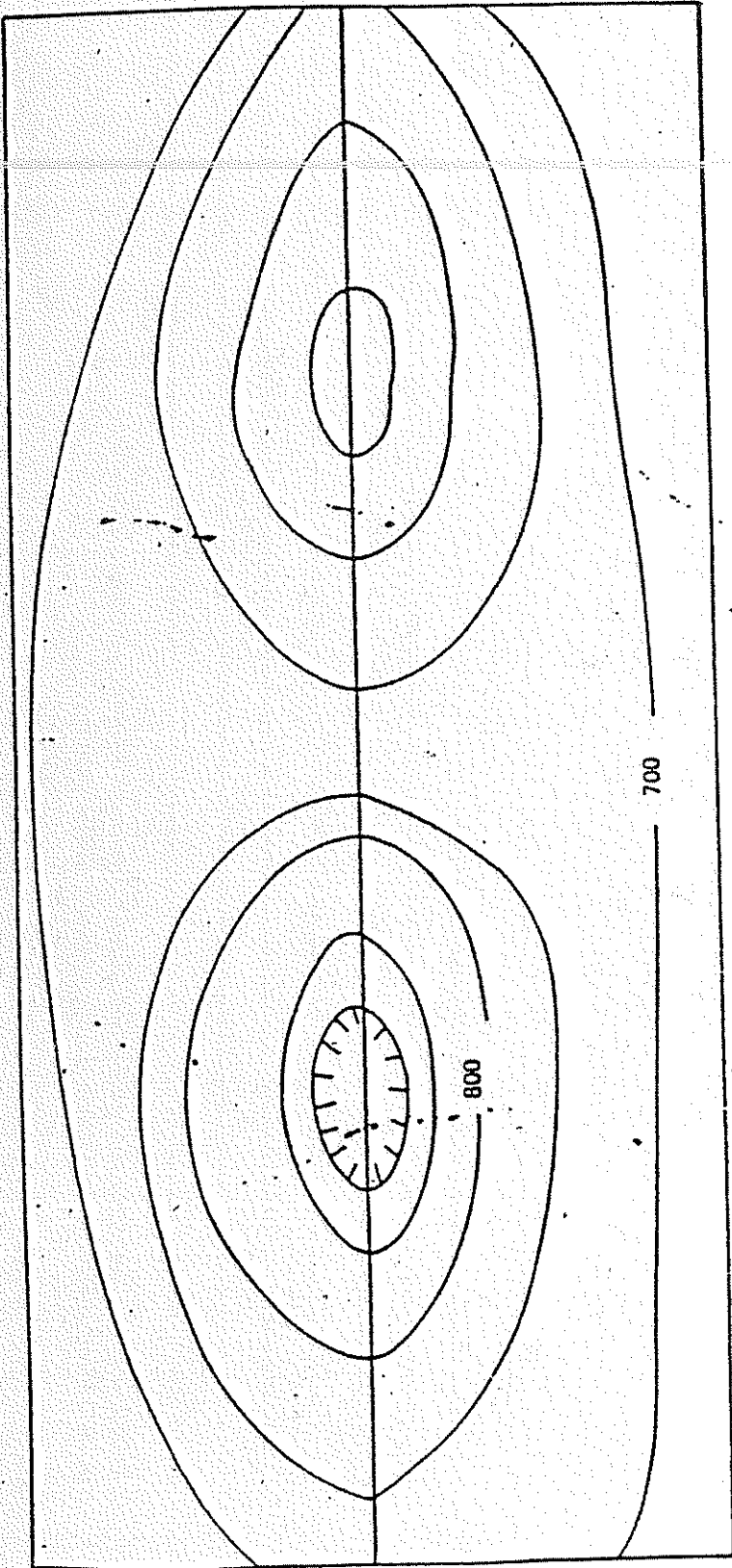
Name:
Period:



Making a Profile II

Name:
Period:





55

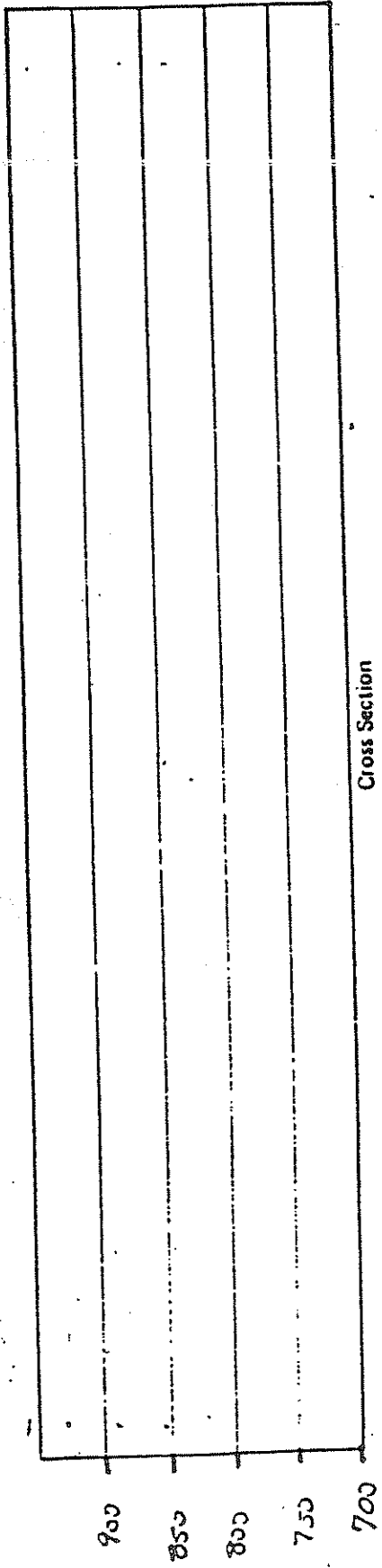


Figure 8-4. Topographic map to be used in Problem 3.

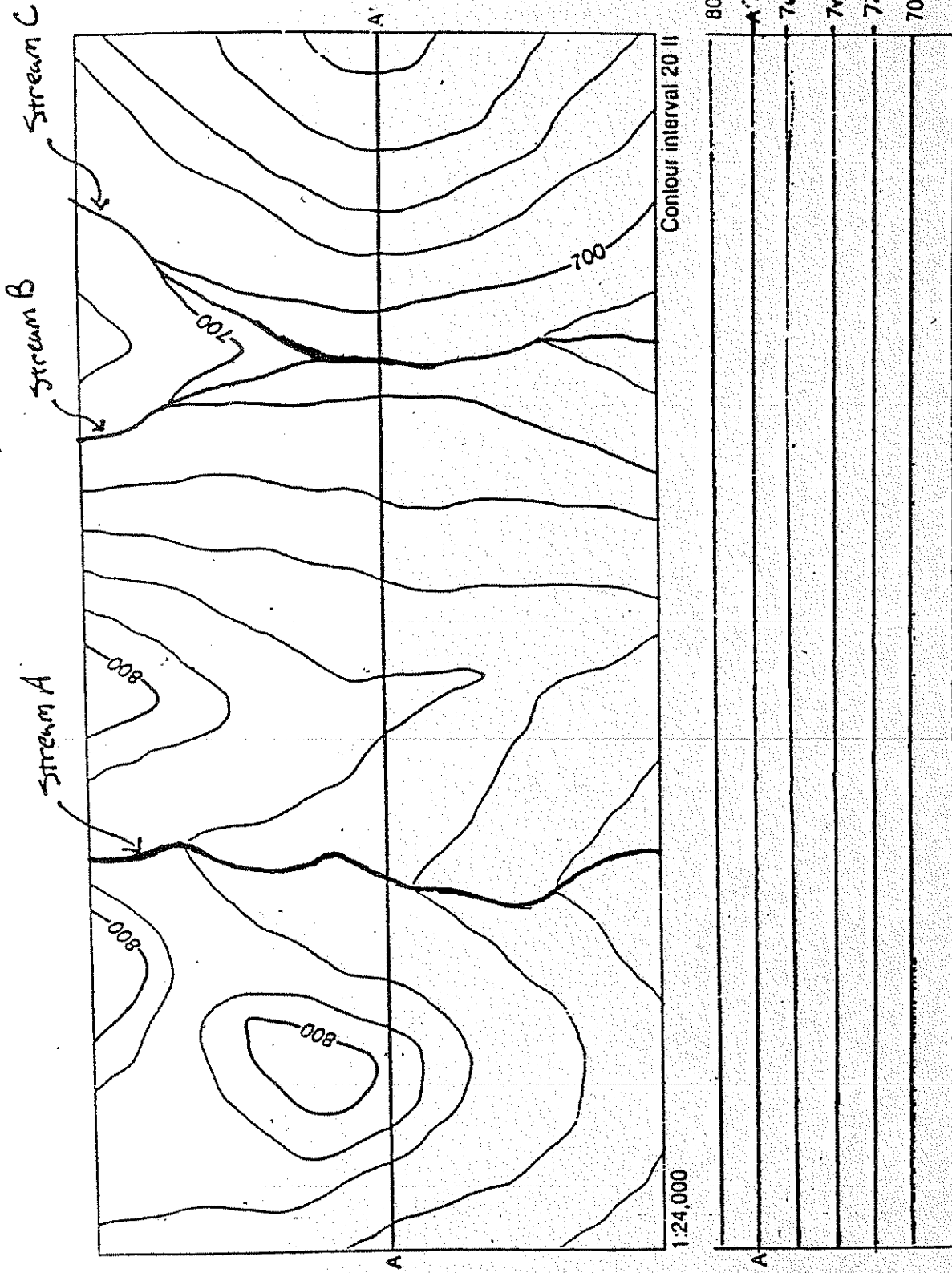


FIGURE 5.14 Topographic profile problem. Construct a topographic profile for line A-A'. Then, calculate the vertical exaggeration of the profile.