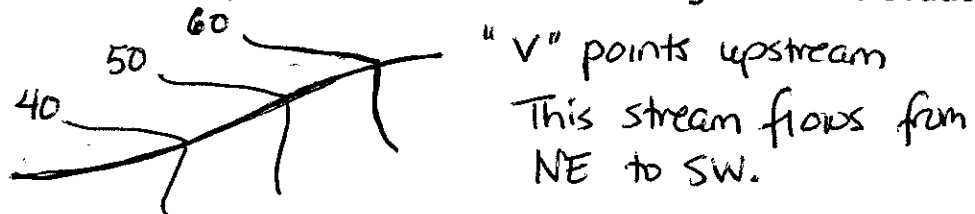


TOPOGRAPHIC MAPS

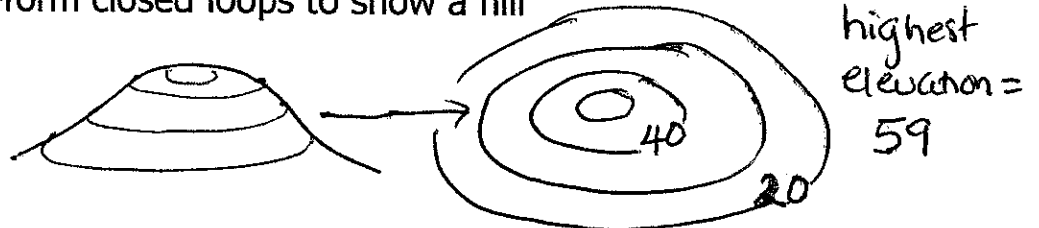
----KEY POINTS----

Contours:

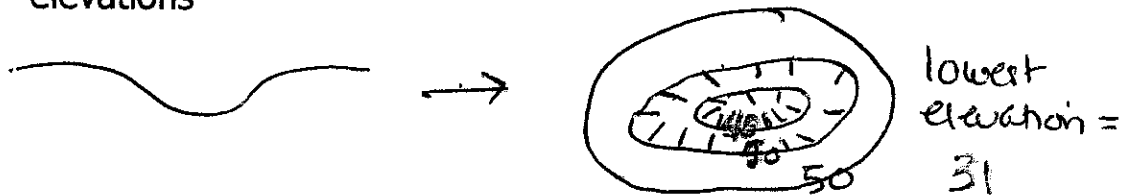
- connect equal elevations
- if close together, land is steep (gradient increases)
- if far apart, land is flat (gradient decreases)
- lines are parallel and never touch
- bend upstream or "point" upstream when crossing a stream (rivers, streams flow from high to low elevations)



- form closed loops to show a hill



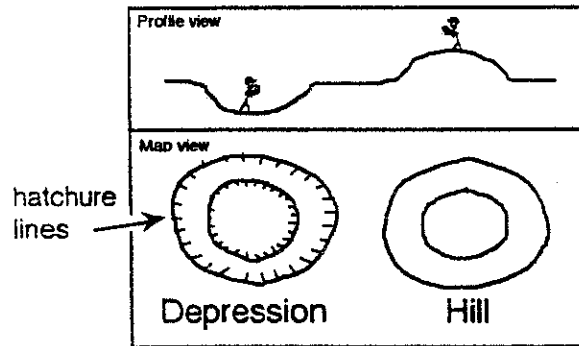
- a depression (hole) in the Earth's surface is shown by hachures that point toward lower elevations



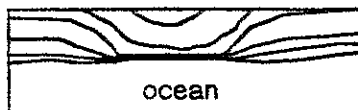
- contour interval = fixed difference in elevation between two adjacent contour lines
- index contours are darker labeled contours
- benchmarks (\triangle or \times) show exact elevation

The Rules of Contour Lines

1. Closed contour lines on a map indicate either a hill (peak, mountain, etc.) or a hole (depression, etc.): Closed contours that indicate that the land slopes down into a hole are marked by hachured lines to distinguish them from closed contours that indicate that the land slopes up over a hill

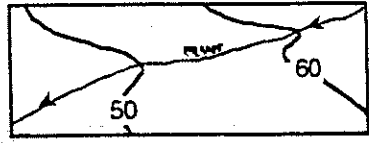


2. A **single contour line** represents a **single elevation** along its entire length. In other words, the elevations of all points along a contour line are the same.
3. Contour lines **never** split, cross, or intersect. At a vertical cliff they do, however, come together and touch

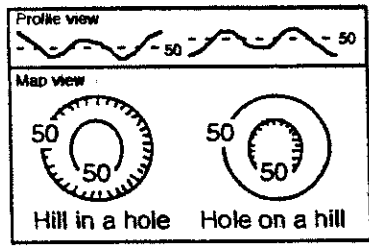


4. The elevation of a contour line is always a simple multiple of the contour interval. For ease of reading, by convention, each fifth consecutive contour line is an **index contour** (drawn as a thicker line than adjacent contours and also numbered somewhere along the trace of the contour line). Commonly used intervals are 5, 10, 20, 40, and 80 feet.
5. Widely spaced contour lines indicate a gentle slope. Closely spaced contours indicate a steep slope.
6. Every contour line eventually closes on itself. However, any one map will not be large enough to show the full extent of all contour lines, and some will simply end at the edge of the map. Where one closed contour line surrounds another, the inner contour line marks the higher elevation. If the contour lines are hachured, then the inner contour line marks the lower elevation.

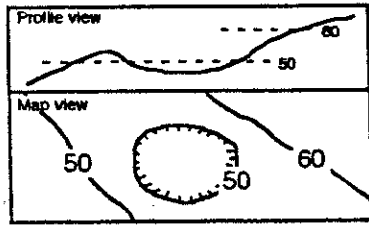
7. Where a contour line crosses a stream or a valley, the contour bends to form a 'V' that points upstream or up the valley



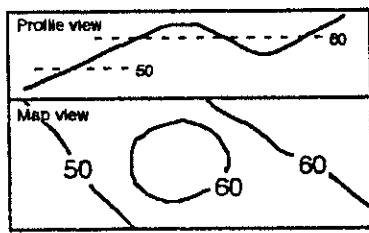
8. Where two adjacent closed contours indicate opposite slopes (hachured contour next to a normal contour) both are the same elevation.



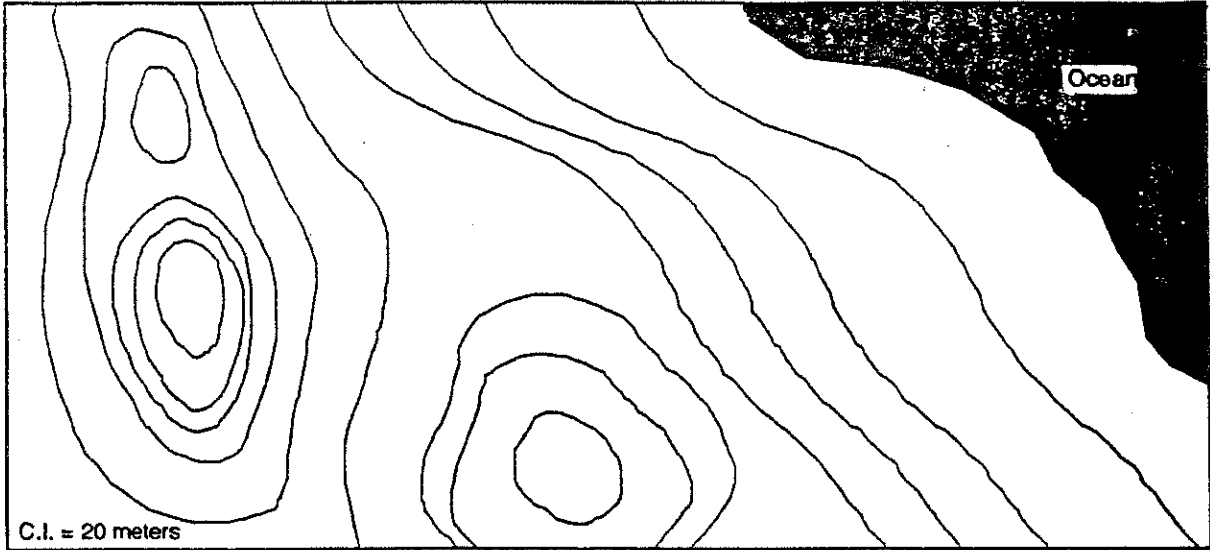
9. A hachured contour line, lying between two different contour lines, is the same elevation as the lower contour line.



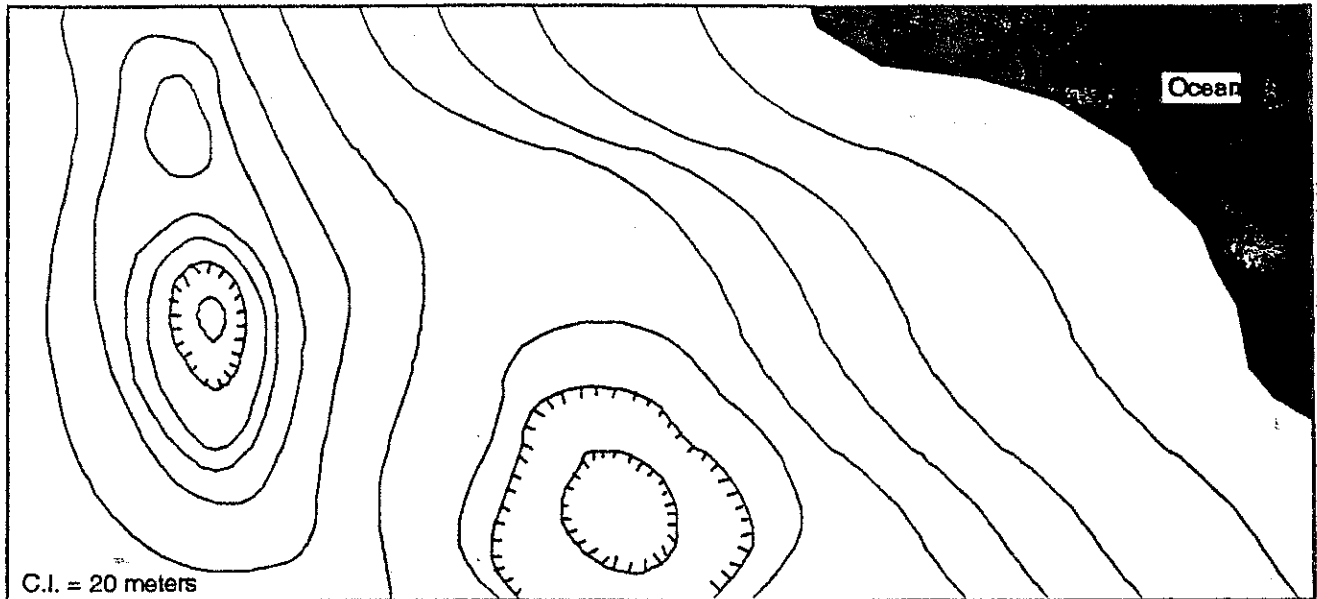
10. A closed contour line, lying between two different contour lines, is the same elevation as the higher contour line.



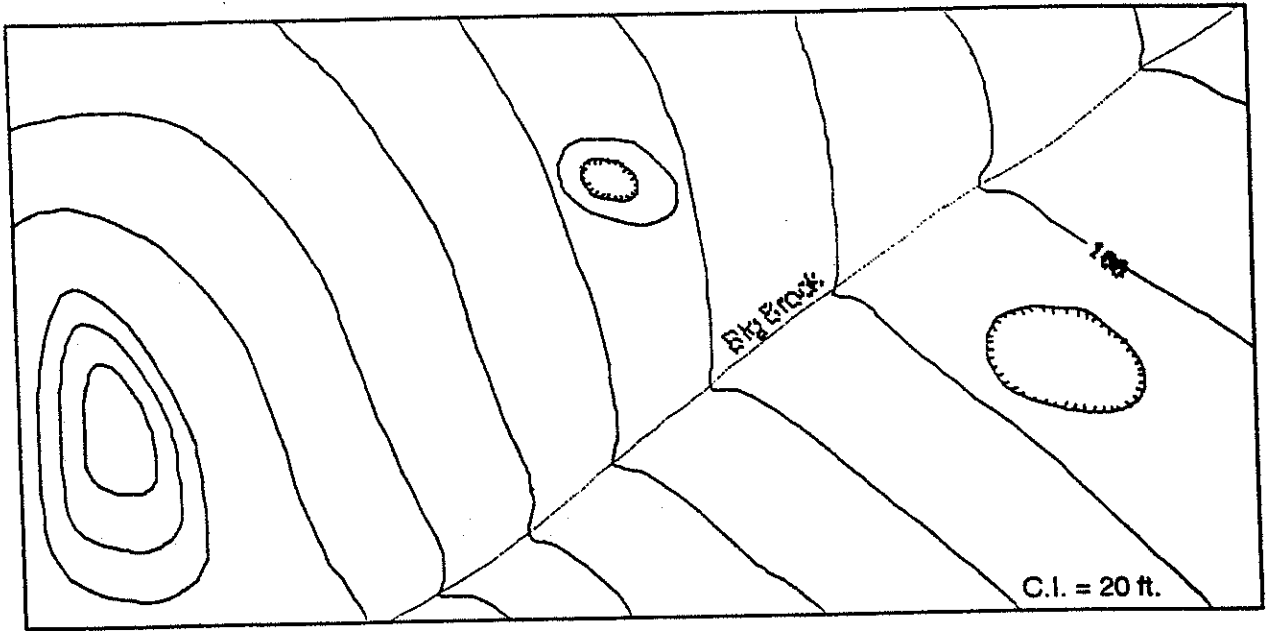
Using the rules of topographic contours listed above, label all of the topographic contour lines in the following maps (1 - 4) with their correct elevations. Zero elevation is sea-level (shore line). Note the contour interval (C.I.) given on each map.



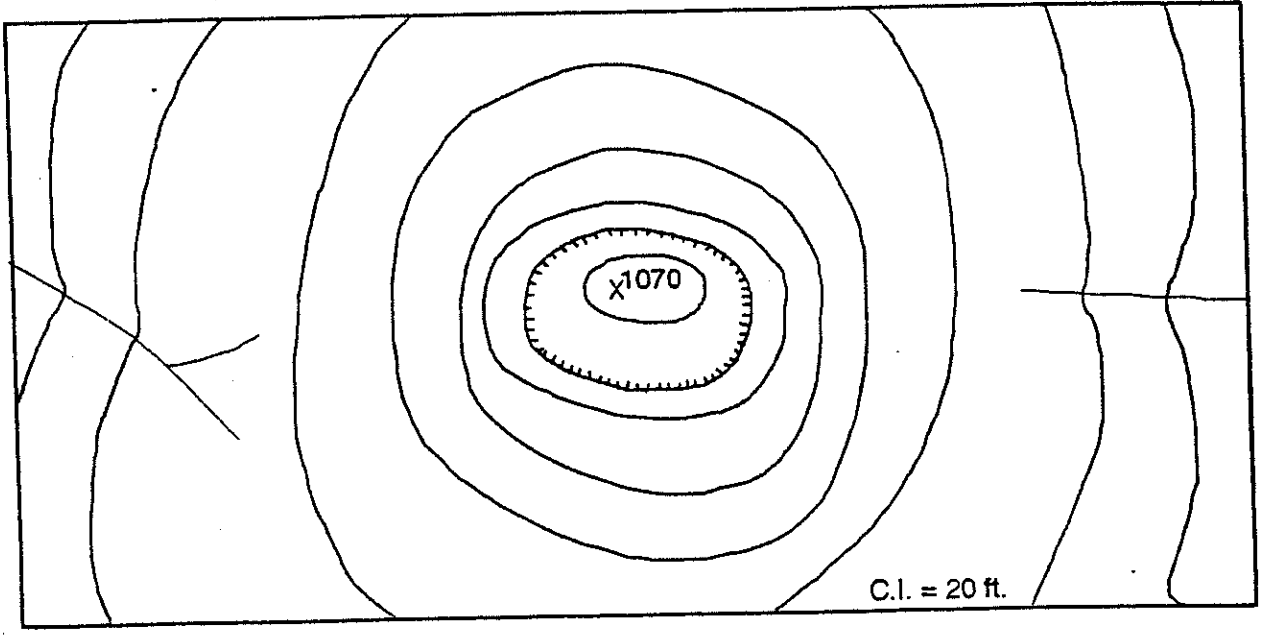
Exercise 1



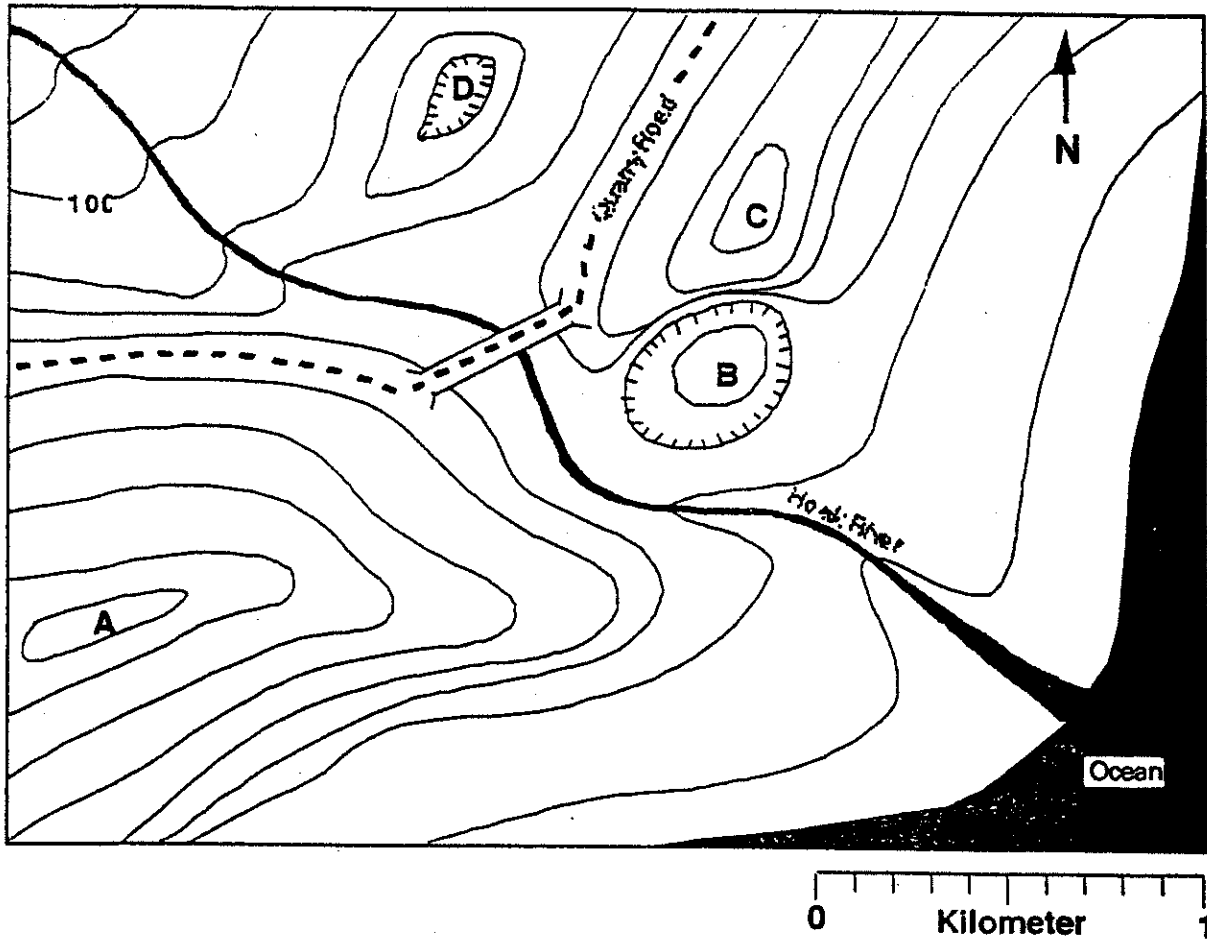
Exercise 2



Exercise 3



Exercise 4



Using your knowledge of topographic contour maps, answer the questions based on the above map. Elevations are measured in meters.

1. What is the contour interval? _____ meters
2. What is the maximum elevation of point A? _____
3. What is the maximum elevation of point B? _____
4. What is the maximum elevation of point C? _____
5. What is the minimum elevation of point D? _____

6. Which side of Ridge A is steeper? _____
7. In what direction does the Hoak River flow? _____
8. Explain three different methods that you can use to determine which way the Hoak River flows:
 - a.
 - b.
 - c.
9. What is the total length of Quarry Road shown on the map? _____
10. Does Quarry Road go uphill, downhill, or remain level from west to east? _____
11. Calculate the gradient from the mouth of Hoak River to point A.
SHOW ALL WORK.
12. Draw a line from A to B. Construct a Topographic profile along this line,

