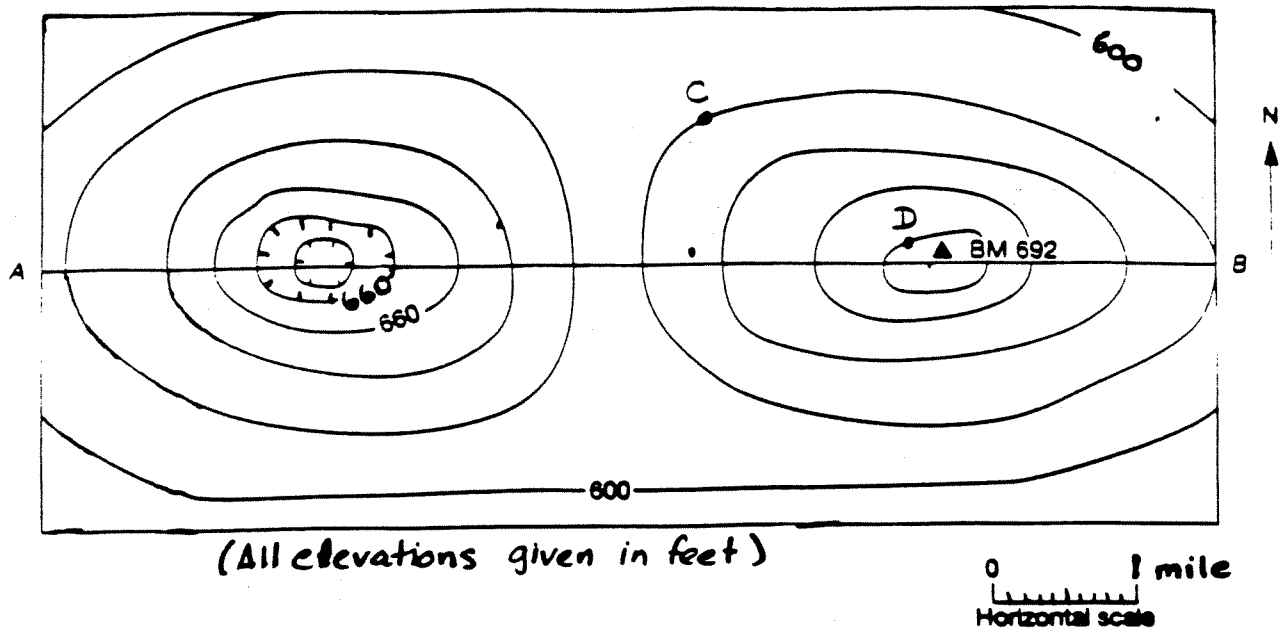
REGENTS EARTH SCI.

NAME _____

PERIOD _____

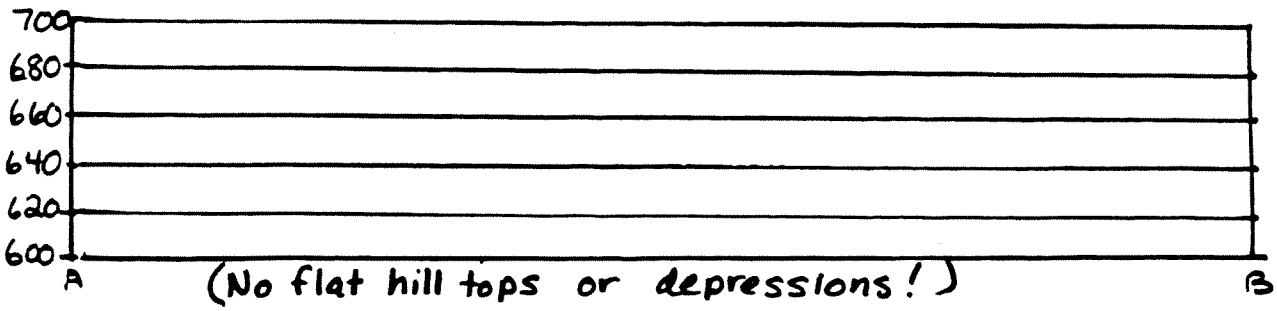
WORKSHEET: **MAP PROFILES**



(1) What is the contour interval? _____ feet

(2) Label all the contour lines.

(3) Draw the profile from A to B



(4) What is the elevation at C? _____ ft

at D? _____ ft

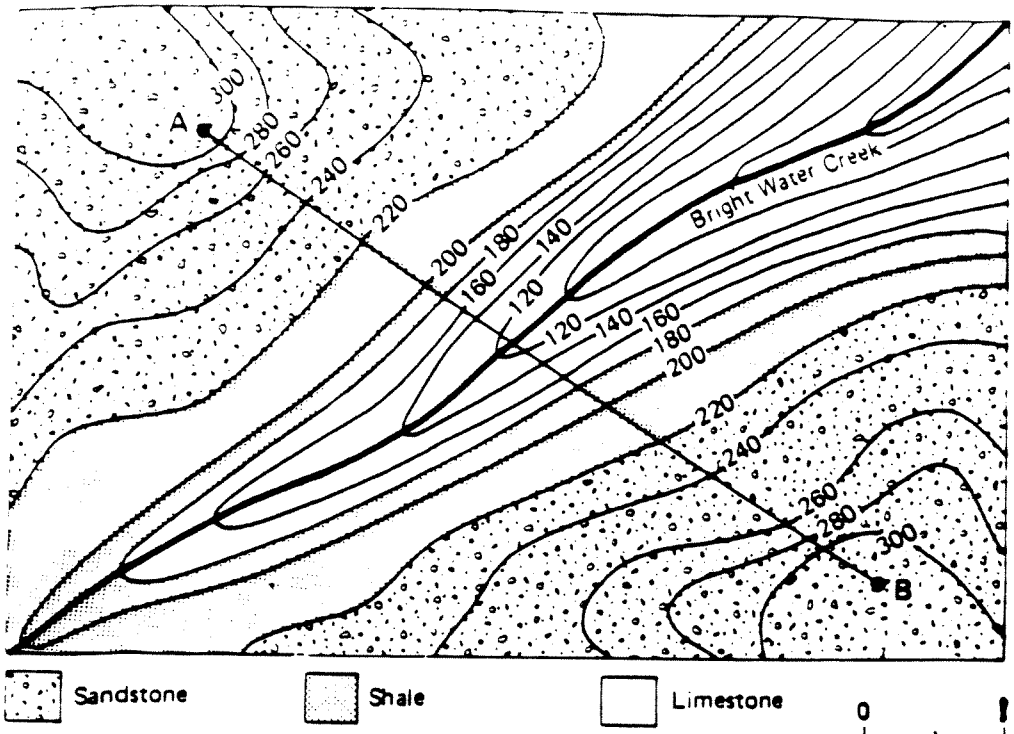
What is the straight line distance between C & D? _____ mile

Find gradient:

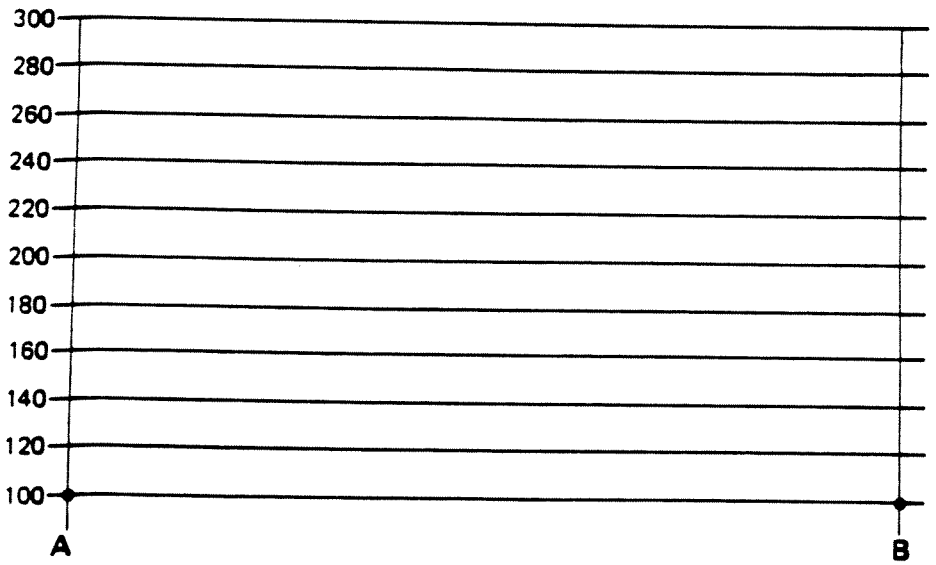
(write formula)

(substitute)

(label answer)



(1) Draw profile from A to B:



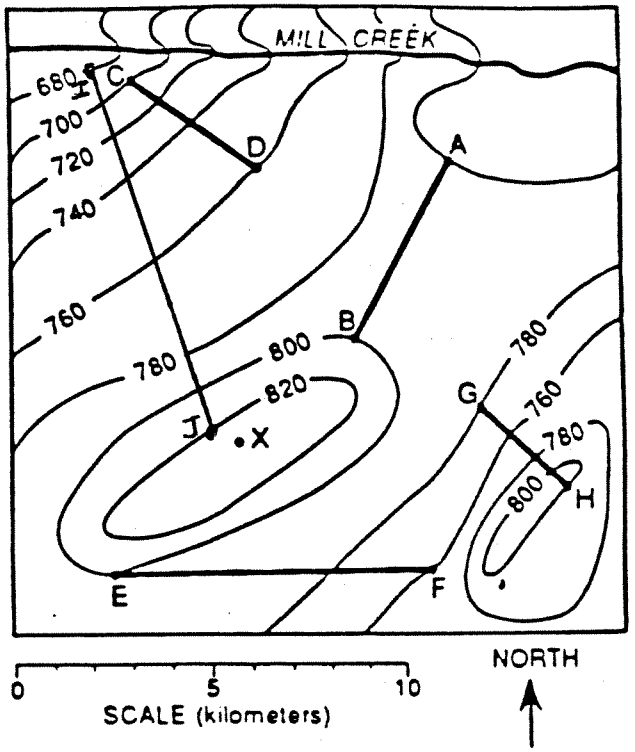
(2) What is the contour interval? _____ ft

EARTH SCIENCE
GRADIENT/PROFILE WORKSHEET NAME_____

Using the topographic map below, calculate the gradients between the pairs of points. In your calculations, use the equation:

$$\text{Gradient} = \frac{\text{change in field value}}{\text{distance of change}} = \frac{\text{(difference in isoline values)}}{\text{distance of change}}$$

*Show the equation, substituting the appropriate units, and solving for gradient.



CD

EF

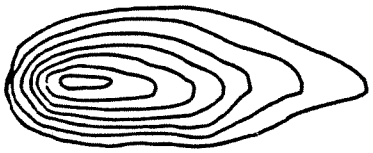
GH

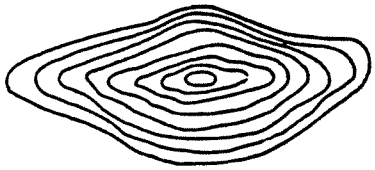
IJ

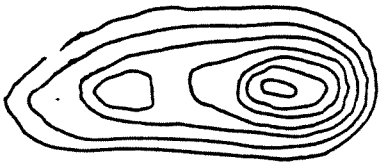
EARTH SCIENCE NAME _____

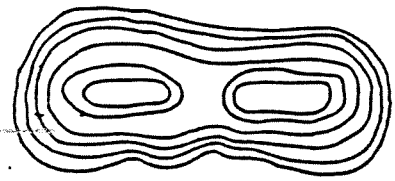
WORKSHEET:TOPOGRAPHIC MAP PROFILES

DIRECTIONS:PLACE THE LETTER OF THE PROFILE VIEW IN THE SPACE NEXT TO THE MAP IT BEST MATCHES.

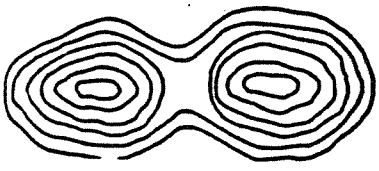
1._____ 

2._____ 

3._____ 

4._____ 

5._____ 

6._____ 

A

B

C

D

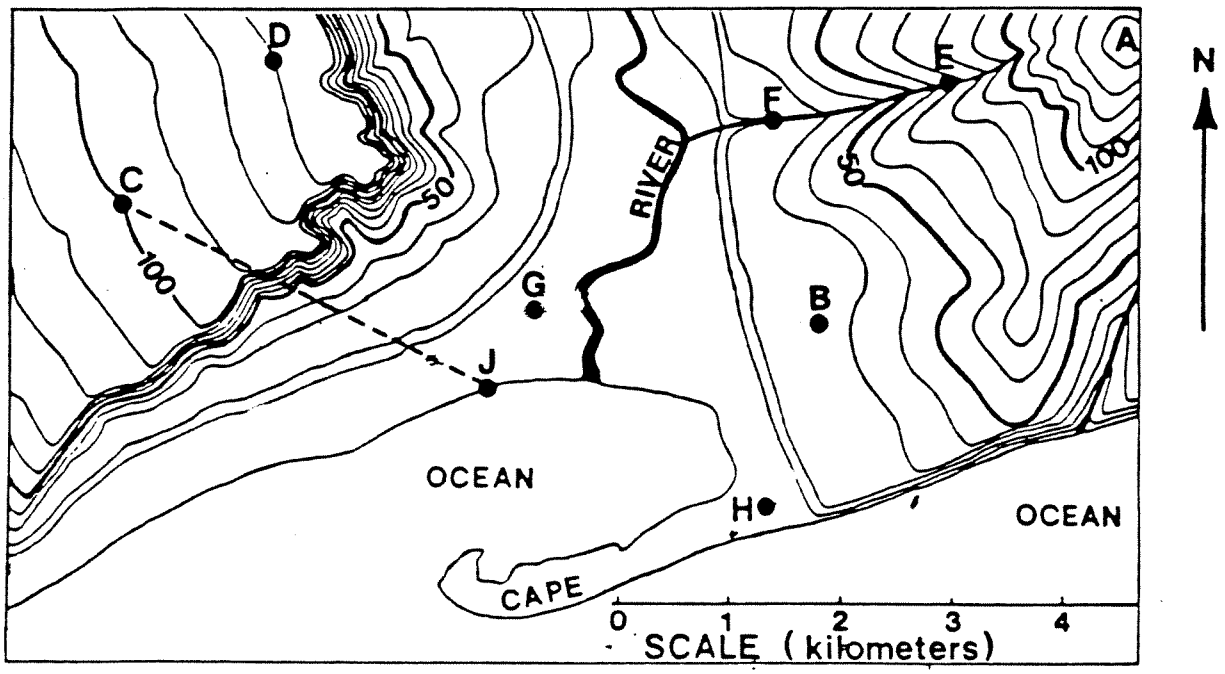
E

F

NAME _____

WORKSHEET: TOPOGRAPHIC MAPS

DIRECTIONS: ANSWER THE FOLLOWING QUESTIONS BASED ON THE MAP BELOW. PLACE YOUR ANSWERS IN THE SPACES PROVIDED USING COMPLETE SENTENCES.



1. What is the contour interval on this map?

2. What is the distance between points C and D?

3. What is the relief between points C and D?

4. What is the gradient (change in elev.) between points C and D?

5. What is the approximate elevation of point B?

6. What direction does the stream flow at point F?

7. What is the elevation of point J?

8. What is the highest possible elevation for point A?

9. As you go from point C to point J will you go uphill or downhill?

10. Which letter lies on the steepest slope?

Regents Earth Science
DO9

Name _____
Period _____

Definitions for Topographic Maps

A._____: shows location, landscape in relief, and cultural features

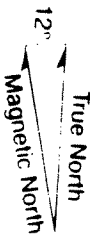
B._____: distance either above or below sea level

C._____: how much variation in elevation an area has. (Relief = highest elevation - lowest elevation)

D._____: line drawn on map to join all points of the same elevation (an isoline for elevation)

E._____: difference in elevation between two consecutive contour lines

F._____: key that explains each symbol used on a map

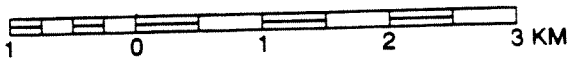


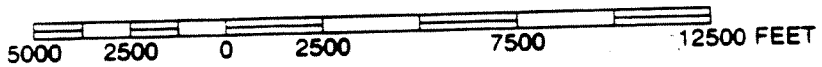
G._____: difference in the angle between true north and magnetic north (p. 118 textbook)

H._____: ratio of distance on the map to distance on the earth

1) verbal scale: "one centimeter equals 50 kilometers"

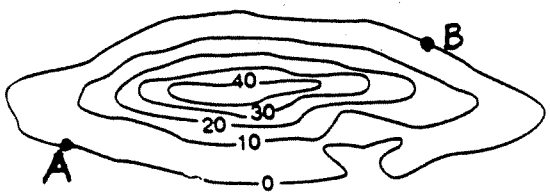
2) graphical scale:





Use the graphical scale to find the distance between pt. A and pt. B

_____ km



3) fractional scale: 1 : 24,000 (1 unit of length on the map represents 24,000 of the same units on the earth)

Measure the distance from A to B in cm.

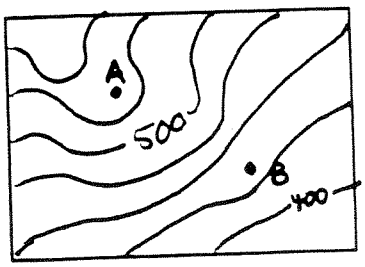
_____

The scale of this map is 1 : 24,000.
How far is this distance in real life?

_____

Convert to kilometers.

_____



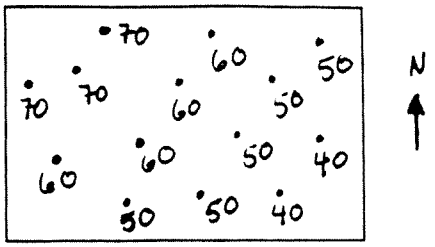
Rules for Contour Lines

1) **All points on contour lines have the same elevation.**

2) **Contour lines never cross, intersect, split, or end.**

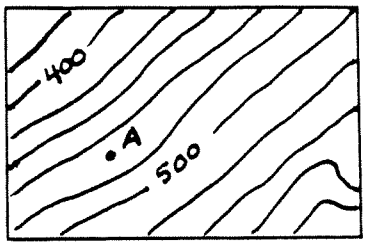
Draw in the contour lines by connecting the dots with the same elevation. Which direction is uphill?

_____



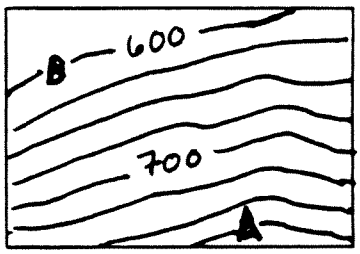
3) **To detemine contour interval:**
   a. **Find the change in elevation between two marked contour lines.**
   b. **Count the number of spaces between those two lines.**
   c. **Divide the change in elevation by the number of spaces.**

What is the contour interval? _____
(in feet)
What is the elevation of point A? _____



Find the relief between the highest point (A) and the lowest point (B) on the map. Show your work.

_____

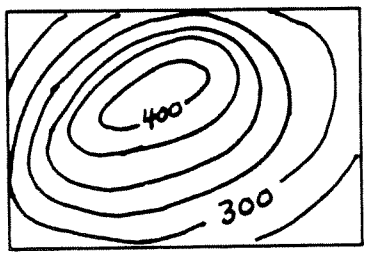


4) **Contour lines that are closed circles indicate a hill or mountain.**

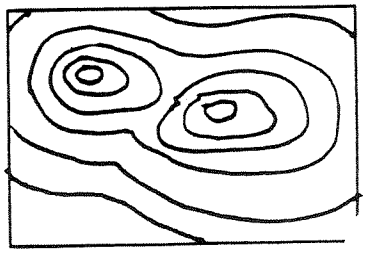
What type of landform does this map represent?

_____

What is the contour interval? _____



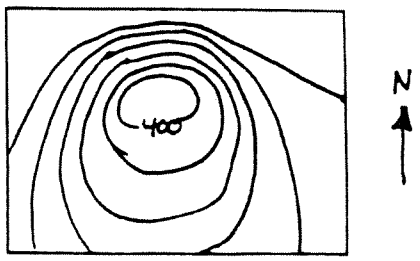
How many hills are found on this map? _____
Place an X on top of each hill.



5) Closely spaced contour lines indicate a steep slope.

In which direction would you find the steepest slope of the hill?

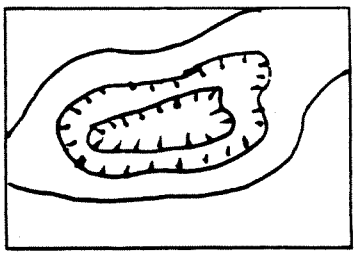
_____



6) **Contour lines with hachure marks indicate a depression (low point in the ground).**

What type of landform does this represent?

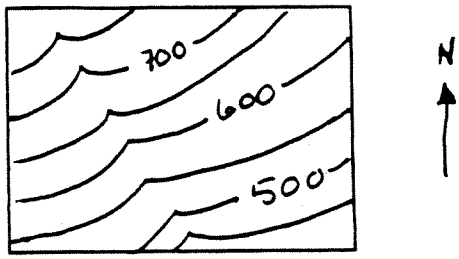
_____



7) **Contour lines form a "V" when crossing a stream valley. The water flows downhill out of the opening of the "V" .**

Draw in the most likely location of a stream.
Which direction is the stream flowing?

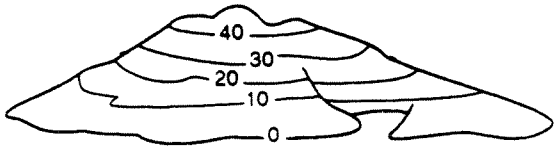
_____



8) **To find the maximum elevation of a hill (or minimum elev. of depression):**
   a. Determine the value of the highest contour line.
   b. Find what the elevation of the next contour line would be.
   c. The height of the hill must be between those two values.

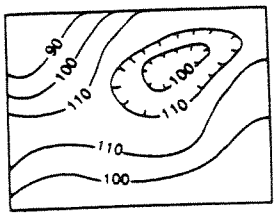
What is the maximum height of this hill?

_____ m.



What is the lowest possible depth of this depression?

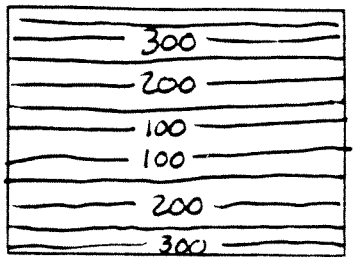
_____ m.



Answer the following questions:

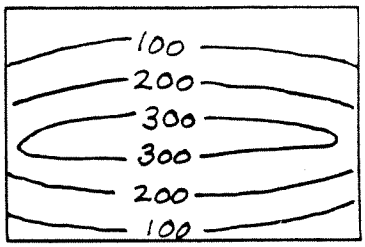
A. What type of landform does this map represent?

_____

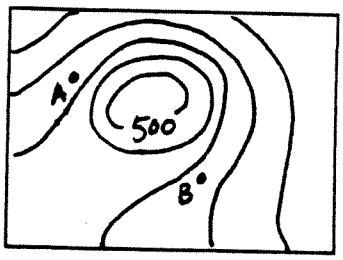


B. What type of landform does this map represent?

_____



C. Draw a line on the map where you would construct a level road between A and B.



D. Circle the errors on this map.
How many errors can you find? _____