2:3 Making a Hill from a Topographic Map

Topographic maps are three-dimensional models of a part of Earth's surface. The third dimension, elevation, is represented by contour lines. A **contour line** joins points having the same elevation. The difference in elevation between two adjacent contour lines is called the **contour interval.** Contour intervals usually are given in even numbers or as a multiple of 5. Using a pencil other than the one you write with, a metric ruler, and a pair of scissors, you will model a hill.

Each of the shapes in Figure 2–2 is an area bounded by a contour line of a topographic map. You will make a three-dimensional model from these shapes. Cut out each of the shapes. Carefully push the pencil through the ***X*** *on each shape. Start with the largest shape and end with the smallest. Stand the pencil up so the shapes are all horizontal and the largest is on the bottom. Turn the shapes so that all the* ***A****s line up, all the* ***B****s line up, all the* ***C****s line up, and all the* ***D****s line up. Use the ruler and move the shapes so they are 2 centimeters apart. Use your model to answer the questions below.*

1. What is the shape of the hill when you turn the pencil so that **A** is on your left and **B** is on your right? (Draw a diagram.)

2. What is the shape of the hill when you turn the pencil so that **C** is you your left and **D** is on your right? (Draw a diagram).

3. Near which letter is the hill the steepest? _____

4. What is the contour interval of this map? _____

5. How does the shape of the hill change if your contour interval is 4 cm? (Draw sketches as in Questions 1 and 2.)

6. On what types of land would you use a large contour interval? Explain. _____

_____

7. Where would you use a small contour interval? Explain. _____

_____

Name _____ Date _____ Class _____

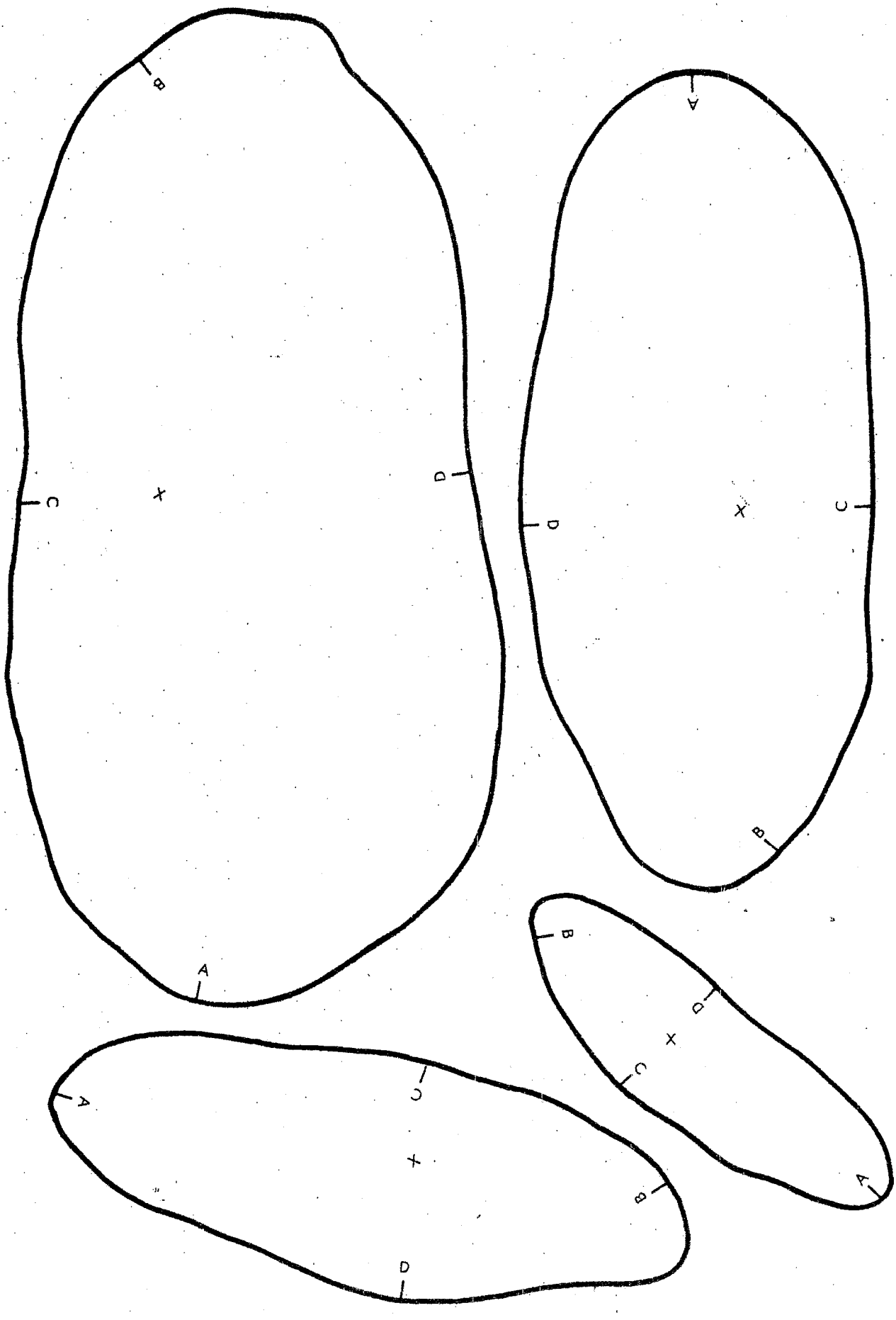

FIGURE 2–2