

Name \_\_\_\_\_

Date \_\_\_\_\_

## Changing Twines: Exploring Area and Perimeter

# Activity Log

Create four non-congruent quadrilaterals using the provided twine. You have already drawn all four quadrilaterals on the provided graph paper. Now, record the dimensions of each quadrilateral in the appropriate column on this activity log. You will NOT use height as a dimension on every quadrilateral. Review the appropriate area formula to decide which dimensions are needed for each quadrilateral. Next, calculate the perimeter and area of each quadrilateral and record these measurements in the appropriate columns. Be sure to include the units of measurement (in centimeters). Finally, write “MAX” next to the largest area, and write “MIN” next to the smallest area.

| Quadrilateral # | Dimensions                   | Perimeter | Area | MIN<br>or<br>MAX |
|-----------------|------------------------------|-----------|------|------------------|
| 1               | Length:<br>Width:<br>Height: |           |      |                  |
| 2               | Length:<br>Width:<br>Height: |           |      |                  |
| 3               | Length:<br>Width:<br>Height: |           |      |                  |
| 4               | Length:<br>Width:<br>Height: |           |      |                  |

### **CONJECTURES—Complete sentences only.**

How do the different dimensions of your quadrilaterals affect perimeter?

How do the different dimensions of your quadrilaterals affect area? What kinds of quadrilaterals form maximum areas? What kinds of quadrilaterals form minimum areas?