NAME _____ DATE _____ PERIOD _____

Geometry Lab Recording Sheet

(Use with Extend 4-4 on page 271 in the Student Edition)

Proving Constructions

Materials: compass, straightedge, paper

Activity

Draw any angle with vertex A. Place the compass
point at A and draw an arc that intersects both
sides of $\angle A$. Label the points B and C. Mark the
congruent segments. With the compass point at B,
draw an arc in the interior of $\angle A$. With the same
radius, draw an arc from C intersecting the first
arc at D. Draw the segments $\overline{BD}$ and $\overline{CD}$. Mark the
congruent segments. Draw $\overline{AD}$.
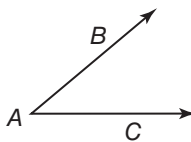
Exercises

**Complete each construction using a straightedge and
compass.**

1. Construct a line parallel to a given line through a given point.
Write a two-column proof of your construction.

2. Construct an equilateral triangle. Write a paragraph proof of
your construction.

3. CHALLENGE Construct the bisector of a segment that is also
perpendicular to the segment and write a two column proof of
your construction. (*Hint*: You will need to use more than one pair
of congruent triangles.)