# *Interdisciplinary Application*

For use with pages 356–363

Spider Webs

LIFE SCIENCE   Although there are spiders that jump or chase their prey, the spider's web is the most well known way for spiders to catch their food. Using abdominal glands that produce a liquid silk, a spider secretes the silk through *spinnerets* to weave an elaborate snare for flying insects. With its highly developed sense of touch, the spider senses the vibrations of a caught insect in the web and then quickly gets its victim.

Not all spiders spin the same type of web. Four common varieties, the orb web, the triangle web, the tangle web, and the sheet web are shown

at the right. Depending on the species and the design, a web can be completed in as little as 40 minutes to as long as several hours.
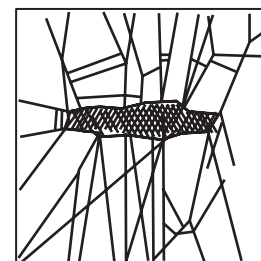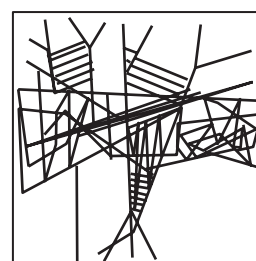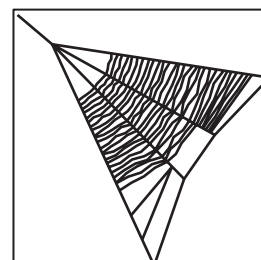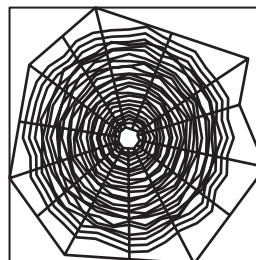
The orb web is probably the design that first comes to mind. In Exercises 1–4, use the diagram of an orb web shown below.

1. Decide whether the quadrilateral is a *trapezoid*, an *isosceles trapezoid*, a *kite*, or *none of these*. Explain your reasoning.

    a. *ABDC*

    b. *GHFD*

2. *ABFE* is a trapezoid. Prove *ABFE* is an isosceles trapezoid.

3. Find the length of the midsegment $\overline{CD}$.

4. Find the length of $\overline{JB}$.