

Name _____
Partner _____
Class _____ Lab _____
Date _____

ELLIPTICAL ORBITS

Objective: The student will create and use ellipses to calculate eccentricity of a satellites' orbits.

Materials: cardboard square, map pins, pencil, 2 premade string loops (one larger, one smaller), compass

Procedure:

1. Pull out the drawing sheet included in the lab. Place the sheet on the cardboard and insert a pin through each of the dots marked f .
2. Place the long string around the two pins. Using your pencil point, place inside the loop and pull the loop tight against the pins so that it forms a triangle, as in the drawing (pg53). Tilt the pencil very slightly inward as you move it slowly around the pins, being sure to keep the strip loop tight. The figure you draw will be an ellipse. Each point labeled f is called a *focus* (plural *foci*) of the ellipse.