**MET 107**

**Homework 5: Algorithm Development**

**PROBLEM:**
Develop an algorithm that computes the volume (V) and surface area (SA) of a right rectangular prism having a hole bored through the center as shown in the figure. The user is to input the coordinates of points A and B as well as the diameter of the hole. Your algorithm should be written in an Input-Transformation-Output (ITO) chart. You may use a table in Word to construct your ITO chart.

Make a flowchart of your algorithm. This can be done in a Word document or it can be neatly sketched on engineering calculation paper.

This is not as simple as it appears on the surface. You need to compute distances, then use these values for areas. For surface area remember to subtract the area of the holes and to add the surface area of the cylinder.

Do not display your equations in “1 line”. Make your equations readable and bullet proof (simple).

**SUBMISSION:**
Turn in your solution, stapled in the following order:

- Algorithm (ITO Chart)
- Flowchart