

# AIM Heat Conduction in a Hollow Cylinder - Geometry

Author(s): Sebastian Vecchi, ANSYS Inc.

## Problem Specification

1. Pre-Analysis & Start-Up
2. Geometry
3. Mesh
4. Physics Setup
5. Results

## Geometry

### Make a cylinder

Click on the **Z-axis** on the compass in the bottom left corner of the screen to look at only the XY-plane. Right click in the empty white space, choose **Select New Sketch Plane**, and left click on the grid that appears, so that the plane we are building on will be on the XY-plane. Select the **Circle** drawing tool in the **Sketch** subgroup of the **Design** tab. Select the origin and drag out the circle until it is the correct size, or dimension the circle using the highlighted box, pictured below, that appears as you are making the circle.

Once the circle is of the desired outside radius, which was given to be  $r_o=3.25\text{in}$ , use the **Pull** tool in the **Edit** subgroup to extrude the cylinder to be 120 inches long.

### Cut Hole in Cylinder

Select the plane on which the original geometry was drawn and make another circle with the size of the internal radius given to us as  $r_i=1.75\text{in}$ . You can cut this circle into the cylinder using the **Pull** tool in the direction of the cylinder, until it has gone all the way through.

You now have the geometry necessary to complete the simulation. Save your project files and press 'X' in the top right corner of the modeling window.

**Go to Step 3: Mesh**

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