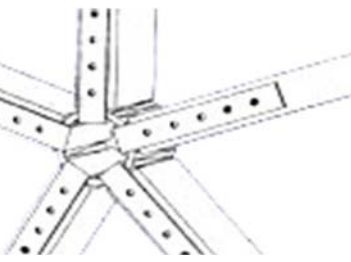


Geodesic Dome



1 DETERMINING SIZE

Your structure will be a 2 phase geodesic dome made up of long struts (A) and a short struts (B). We must calculate the strut size based on the desired radius of your dome. Use the worksheet below to calculate your sizes.

Dome Radius (6-40 inches) =

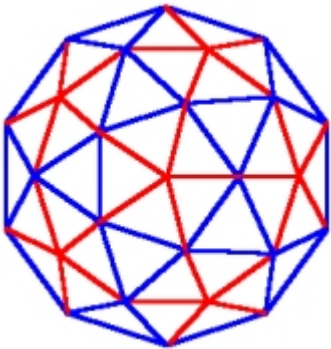
Area = $\pi * r^2$ =

Strut A (35 pieces) radius * 0.61803 =

Volume = $.5 * (4/3 \pi * r^3)$ =

Strut B (30 pieces) radius * 0.54653 =

2 CONSTRUCTING THE DOME



Prepare your pieces for construction. You will need:

- A - 35 long pieces (Mark each with Blue) 3/8 x 3/8 Balsa
- B - 30 Short pieces (Mark each with Red) 3/8 x 3/8 Balsa
- 10 Base Connectors
- 10 Hexagon Connectors
- 6 Pentagon Connectors

(Construction steps on back)

Step 1. Attach ten (10) Long struts, A's, end to end to make the base.

Step 2. Attach one long and one short to each joint. Arrange them so that there are two longs next to each other, followed by two shorts, and so on.

Step 3. Tape the tops of two adjacent shorts together to make a triangle. Tape the next two longs together, and so on, all the way around.

Step 4. Connect the tops of these new triangles with a row of shorts. (The dome will start curving inward.)

Step 5. At each joint where four shorts come together, tape another short sticking straight up. Connect this short to the joints on either side with longs, forming new triangles

Step 6. Connect the tops of these new triangles with a row of longs.

Step 7. Finally, add the last five shorts so that they meet at a single point in the center of the dome.

