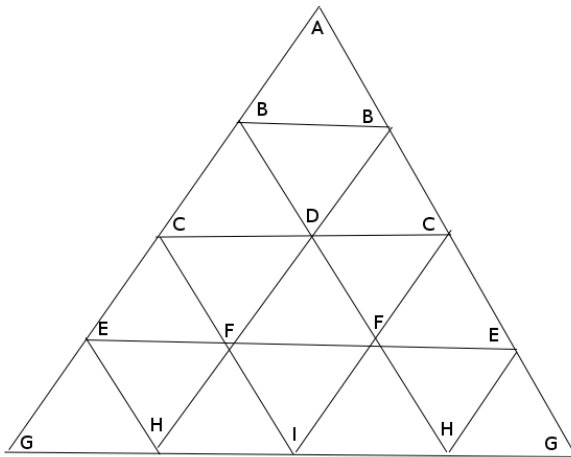


Parabolic Dome 20ft dia. X 10ft high

This dome has served as an experimental platform for exploring a number of ideas:

1. Three of the six sections were calculated to reach a flat surface, but the other three were vertical arches that could interface with similar faces on other domes. In this case however, I added a few extra pieces to extend the bottom edge in a parabolic shape to a 20' circle at the ground level.
2. Various wood stove experiments made it a comfortable winter studio for related work
3. Different types of covering material were tested. Perhaps the most important of these was that I didn't want to have to repair the uppermost triangles, so I embedded fiberglass window screen in a solar roof coating for those triangles.
4. I replaced a couple sections of triangles with clear plastic for view and natural lighting.
5. It has served as an emergency shelter for friends in need.

The basic structure of the frame is pretty straight forward. The material is 3/4" steel conduit cut to the lengths (+1" to allow for the bolt holes to be spaced 1/2" in from each end) and quantities shown below. The ends are flattened, drilled, and bolted together per the triangular arrangement shown on the left. (This pattern is repeated six times to complete the circle. (With the calculations shown below, all sections will result in flat circles, rather than the experimental arches mentioned above.)



The floor in this case was covered by hexagon pavers, and furnished with a cook stove for warmth and convenience.

	Chord factor	Radius	strut length	qty	total length
AB	0.2519	10.0	2.5195	6	15.1167
BB	0.2500	10.0	2.5000	6	15.0000
BC	0.2670	10.0	2.6700	6	16.0200
BD	0.3237	10.0	3.2370	12	38.8442
CD	0.2588	10.0	2.5882	12	31.0583
CF	0.3635	10.0	3.6352	12	43.6220
CE	0.2948	10.0	2.9481	6	17.6887
DF	0.3135	10.0	3.1354	12	37.6250
EF	0.2605	10.0	2.6047	12	31.2567
EH	0.4018	10.0	4.0182	12	48.2189
EG	0.3322	10.0	3.3219	6	19.9315
FF	0.2605	10.0	2.6047	6	15.6283
FH	0.3407	10.0	3.4068	12	40.8810
FI	0.3649	10.0	3.6488	12	43.7860
GHI	0.2611	10.0	2.6105	24	62.6525
Totals>>					477.3299

