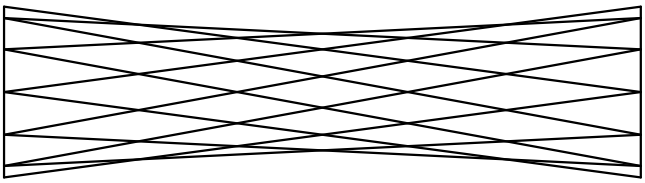
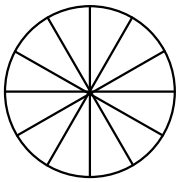
# Hyperboloid

A hyperboloid is a solid or surface having plane sections that are hyperbolas, ellipses, or circles. A hyperbola is a symmetrical open curve formed by the intersection of a circular cone with a plane at a smaller angle with its axis than the side of the cone – but never mind, just look at the pictures.

The form in this context is that of cylinders with gracefully blending curves. The application I have in mind for this is that of an aesthetically pleasing structural element with a high strength-to-weight ratio.





2+sin60/4= 2.217
2+sin30/4= 2.125
2-sin30/4= 1.875
2-sin60/4= 1.783

2+sin60/2= 2.433
2+sin30/2= 2.25
2-sin30/2= 1.75
2-sin60/2= 1.567

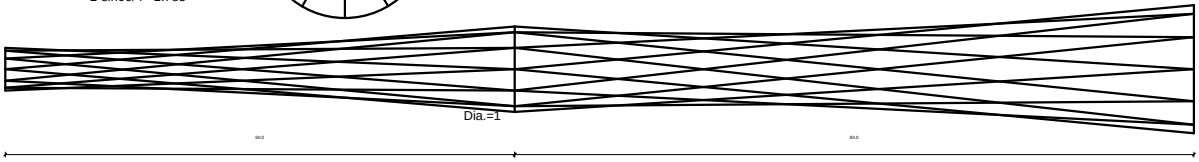
24 pieces @ 8' = 192'

24 pieces @ 6' = 144"

336'

sin60*.75+2= 2.649
sin30*.75+2= 2.375

1-sin30*.75 = .625
1-sin60*.75 = ..350



# Fun With a Hyperboloid

For some reason (I don't recall why at the moment) I made a hyperboloid out of 9-gauge wire. It's attached to a base 24" across, for a total height of about 7-1/2 feet. It may be interesting to note that there are no curved wires in any of these structures.

I thought it might be fun to combine it with a couple of other things that are equally useless by themselves.

When topped by a three foot diameter geodesic sphere we have a golf tee.

Add a two meter diameter parabolic dome, and we have a mushroom.

Invert the dome, and we are looking at a chalice.

And so I continue, to solve problems nobody has, and answer questions nobody is asking.