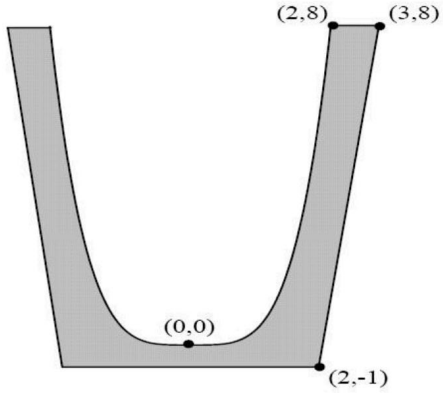
A Water Glass



A glass is formed by rotating the shaded region shown above about the y axis. The curve that forms the inside of the glass is the graph of $y = x^4/2$. Length units in the figure are cm.

The problem above comes from our homework in a section about cylindrical shells. The question asks for the volume of the water if the glass is full and the volume of the glass itself. This problem has many approaches, some easier than others and the goal is to think about how to use your tools to approach it.

As far as we know, this glass has never been actually manufactured until now! See the print for a visual of what this glass would look like and check out the animation for a visual of the rotation.

Now you go find a volume of revolution around your house and see if you can model it and find its volume!