

Math 112

The Goblet Project

Design a wine goblet in Maple using solids of revolution. The goblet must meet the following requirements:

1. The wineglass must be a solid of revolution.
2. The goblet must hold 150 cubic centimeters (cm) of wine.
3. The ratio of the height h and the base radius r of the goblet must be less than or equal to 3 (so that the goblet does not tip over easily):

$$\frac{h}{r} \leq 3.$$

4. The stem thickness must be at least 1/4 cm at its thinnest point.

To earn two extra credit points on Exam 1, you must submit your goblet anytime before Wednesday, February 20. You must also submit an explanation of why your goblet meets the requirements above.