

On your Mark: You are taste-testing various cakes, samples of which are plotted on the handout. Choose a *cake* from the handout. The contours represent the height (in inches) of a 2 inch by 4 inch cake which has been divided into four pieces. Rank the four pieces according to the total amount of cake.

Get Set: Estimate the volume of your largest piece of cake. Include units.

Go: Describe two ways to reduce the error between your estimates.

Challenge: The cake's caloric density is given by $\rho(x, y, z) = \frac{10}{\sqrt{z}} \frac{\text{cal}}{\text{in}^3}$ (Heavy ingredients like chocolate chips and nuts can settle during baking.) How many calories are in your largest piece of cake?