The isoperimetric quotient of a simple closed loop in the plane is the ratio \( A/P^2 \), where \( A \) is the area enclosed and \( P \) the perimeter. It is maximized only when the loop is as symmetric as possible, i.e. a perfect circle. Among rectangles, squares have maximal quotient.

Consider the isoepiareal ratio \( V^2/S^3 \) for closed surfaces in three dimensions, where \( V \) is the volume enclosed and \( S \) the surface area.

**Problem.** Prove cubes have maximal isoepiareal ratio among cuboids.

(A cuboid is a right rectangular prism, i.e. ... a box.)

- Partial credit may be given for partial answers.
- Each POW will be due the following week at 1pm.
- Questions? Email: bthorner@unomaha.edu
- Submit solutions to (above email), DSC 210, or DSC 203.
- POWs, solutions, backgrounds, leaderboard available at