

Multivariable Calculus

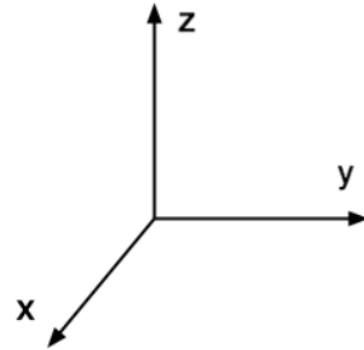
Pyramid Volume Challenge

Intro

Graph the surface $z = \frac{1}{x \cdot y}$ on Grapher
for $x > 0$ and $y > 0$.

Note that the surface's equation can
also be written $xyz = 1$.

Sketch the graph here.



Challenge

Given any point $P(a, b, c)$ on the surface, find the volume of the tetrahedron formed by the three coordinate planes and the tangent plane to the surface at P . (Sketch P and the tetrahedron on the graph above).