

Exercises

E22.3 [1Q2] Given $m > 0$, show that the relation $xyz = m^3$ defines a surface in \mathbb{R}^3 . Prove that the planes tangent to the surface at the points of the first octant $\{x > 0, y > 0, z > 0\}$ form with the coordinate planes of \mathbb{R}^3 a tetrahedron of constant volume.

Solution 1. [1Q3]