Showcase

Mario thinks the recognizes these from building 54. No, thats not it... maybe building 28? Something like that. It's all Greek to him, but then mathematical expressions usually are.

- $z = w^3$ with $z, w \in \mathbb{C}$ near 0

- $z^2 + 1 = x^2 + 4y^2$, marked with lines of the form $(t\cos\theta + \sin\theta, \pm(t\sin\theta - \cos\theta)/2, t)$ for various values of θ.

- $y^2 = x^2 - z^3 + 3x^2z$

- $x^2 + 2y^2 + 3z^2 = 1$, marked with curves in the principal directions. A point where the principal directions are not well-defined is indicated.

- The shape of a soap film stretched between two parallel wire hoops.

- $z^4 + 2z^2 + 1 = x^2 + y^2$, marked with curves along which the normal curvature vanishes.

- $x^2 + y^2/4 + z^2/9 = 1$ and $z^2/3 = 1 + x^2/5 + y^2/2$

- $z = \operatorname{Re}\left((x+iy)^2\right)$

- A surface, locally isometric to the hyperbolic plane, with an isolated singularity