Assignment 10

Due date: April 15, 2023

1. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.

2. For a plane parameterized by $x = r$, $y = r$, and $z = r$, where $r$ is a parameter, find the equation of the plane.

3. If a plane is parameterized by $x = u$, $y = v$, and $z = u + v$, where $u$ and $v$ are parameters, find the equation of the plane.

4. Given a plane defined by $x = 2t$, $y = 3t$, and $z = 4t$, where $t$ is a parameter, find the equation of the plane.

5. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.

6. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.

7. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.

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9. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.

10. Consider a hyperbolic paraboloid given by $z = rac{x^2}{a^2} - rac{y^2}{b^2}$. Find its equation and sketch its graph.