Math 53 (Multivariable Calculus), Section 102 & 108
Week 4, Friday
Sep 16, 2022
For the other materials: seewoo5.github.io/teaching/2022Fall

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1. Find parametric equations for the line through the point $(0, 1, 2)$ that is parallel to the plane $x + y + z = 2$ and perpendicular to the line $x = 1 + t, y = 1 - t, z = 2t$.
2. Let $\mathbf{n} = \langle 1, 1, 2 \rangle$ be a vector.
   (a) Find an equation of plane that is orthogonal to $\mathbf{n}$ and passes through the origin.
   (b) Find an equation of plane that is orthogonal to $\mathbf{n}$ and passes through $(1, 1, 1)$.
   (c) Find a distance between these planes.
3. Find an equation for the surface consisting of all points that are equidistant from the point $(-1, 0, 0)$ and the plane $x = 1$. Identify the surface.