

10.5 – Parametric Surfaces

Example 1

Identify the surface with vector equation $\vec{r}(u, v) = \langle 2 \sin u, 3 \cos u, v \rangle$

Example 2

Find a parametric representation for the sphere $x^2 + y^2 + z^2 = a^2$.

Example 3

Find a vector function that represents the plane that passes through the point $(0, -1, 3)$ and contains the two nonparallel vectors $\langle 2, -1, 3 \rangle$ and $\langle 4, 1, 5 \rangle$.

Parametric Equations for surfaces of the form $z = f(x, y)$

Surfaces of Revolution

10.5 HW # 1, 3, 11-16, 17, 19, 21