



Figure 13.56

Transformations Between Spherical and Rectangular Coordinates

Rectangular \rightarrow Spherical

$$\rho^2 = x^2 + y^2 + z^2$$

Use trigonometry to find ϕ and θ

Spherical \rightarrow Rectangular

$$x = \rho \sin \phi \cos \theta$$

$$y = \rho \sin \phi \sin \theta$$

$$z = \rho \cos \phi$$