Spherical Coordinates

Practice Your Understanding

Name: _____

Date: _____

1. Write down the equations for converting from Cartesian coordinates to Spherical coordinates and for converting from Spherical coordinates to Cartesian coordinates below:

2. Using the formula for converting from Cartesian to Spherical coordinates, calculate the Spherical coordinates for the point (4.6, -3.7, 9.0) (x, y, z). Show all of your work for the conversion in the box below:

3. Using the formula for converting from Spherical to Cartesian coordinates, calculate the Cartesian coordinates for the point (-2.9, 42.61, 72.93) (r, θ, ϕ). Show work for the conversion in the box below (Note: You can round your answer to up to two decimal places):