**Precalc BC Cylindrical and Spherical Coordinate Systems**

1. Convert the following rectangular coordinates to cylindrical or spherical.

To cylindrical To spherical

a) (1, 1, 1) c) 

b)   d) 

1. Convert cylindrical coordinates to rectangular:

a)  b) 

1. Convert spherical to rectangular:

a)  b) 

1. Find an equation in rectangular form for the surface whose equation is given in *cylindrical*.

a)  b)  c) 

1. Find an equation in rectangular for the surface whose equation is given in *spherical*.

a)  b) 

1. Find an equation in *both* spherical and cylindrical form for the surface whose equation is given in rectangular.

 