PHYS 321 HCP Structure Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Show that the base area of the unit cell for HCP is given by, 6√3R2.

3.6 Show that the atomic packing factor for HCP is 0.74.

3.17 Titanium has an HCP unit cell for which the ratio of the lattice parameters *c/a* is 1.58. If the radius of the Ti atom is 0.1445 nm, **(a)** determine the unit cell volume, and **(b)** calculate the density of Ti and compare it with the literature value.

