

**Assignment #4**, Physics 274  
Due Date: Wednesday October 26 2011

The following were actual tests conducted at the Nevada Test Site and the Bikini Atoll in the South Pacific. The tests are designated by their series (first name), the number in the series (second/third name), and how they were detonated.

For each test, compute the following, and summarize your results in a table:

- (a) the radius of the 5-psi ring (in miles)
- (b) the blast area (in square miles)
- (c) the radius of the “burn ring” (the distance at which paper or dry grass will ignite)
- (d) the burn area
- (e) The LD-50 and LD-100 radii

1. *Teapot Tesla*, 8-kt, 300 foot airburst (exploded on a tower).
2. *Upshot Plumbob Hood*, 74-kt, 1500 foot airburst (balloon suspended).
3. *Redwing Dakota*, 1-Mt (1,000 kt), surface burst.
4. What would be the casualty estimates if these bombs exploded in Los Angeles at the given burst heights, which has a population density of 7877 people per square mile?