**Problem 1.12**

At 45° latitude, the gravitational acceleration as a function of elevation *z* above sea level is given by *g* = *a* − *bz*, where *a* = 9.807 m/s2 and *b* = 3.32 × 10−6 s−2. Determine the height above sea level where the weight of an object will decrease by 0.3 percent.

Answer: 8862m