**Problem 1.22**

The weight of bodies may change somewhat from one location to another as a result of the variation of the gravitational acceleration *g* with elevation. Accounting for this variation using the relation in Prob. 1–12, determine the weight of an 80-kg person at sea level (*z* = 0), in Denver (*z* = 1610 m), and on the top of Mount Everest (*z* = 8848 m).

***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