**Solution 1.22**

The gravitational acceleration changes with altitude. Accounting for this variation, the weights of a body at different locations are to be determined.

***Analysis*** The weight of an 80-kg man at various locations is obtained by substituting the altitude z (values in m) into the relation



Sea level: (z = 0 m): W = 80×(9.807-3.32x10-6×0) = 80×9.807 = **784.6 N**

Denver: (z = 1610 m): W = 80×(9.807-3.32x10-6×1610) = 80×9.802 = **784.2 N**

Mt. Ev.: (z = 8848 m): W = 80×(9.807-3.32x10-6×8848) = 80×9.778 = **782.2 N**