AAE421 Homework 1
Due Wednesday January 16, 2008

In this course we will use the U.S. Customary units wherein
      Mass has units of slugs (slug) (Units(m)=slug),
      Distance has units of feet (ft),
      Angles are dimensionless but have units of radians (rad),
      Time has units of seconds (sec),
      Force has units of pounds (lbf)
      Moments have units of foot-pounds (ft-lbf).
      The relationship between pounds and mass is determined from F=ma
      (lbf=slugs*ft/sec^2).

Referring to equations 1.51, 1.52, 1.53, and 1.36, what are the units of the following quantities?

Units(U)=_____
Units(V)= _____
Units(W)= _____
Units(P)= _____
Units(Q)= _____
Units(R)= _____
Units(Udot)= _____
Units(Vdot)= _____
Units(Wdot)= _____
Units(Pdot)= _____
Units(Qdot)= _____
Units(Rdot)= _____
Units(m)= _____
Units(g)= _____
Units(F_A) _____
Units(weight)= _____
Units(mg=weight) _____
Units(I_{xx})= _____
Units(I_{xx}Pdot)= _____
Units(L_A)= _____
Units(M_T)= _____
Units(N_A)=_____

Prove that every additive term in equations 1.51a, 1.52b and 1.53c has consistent units.