* Buoyant force: resultant force exerted on a body by a fluid at rest
  + Archimedes: “a body is buoyed up by a force equal to the weight of the displaced fluid.”
  + **K ᣟ n** = 0
  + **F** = -
  + Take dot product of k and F to get buoyancy force
  + nkdA is projection of surface area onto xy plane change variables of integration
  + Both terms under same integral sign
  + rho \* g is a constant
  + **Fz = ⍴ g Vs**
* Hydrometer
  + Uses the buoyancy principle to determine the ratio of densities of two fluids
  + Usually one fluid is water
  + Ratio is called specific gravity, ɣ
    - Ɣ = ⍴/⍴H2O
  + Mass of hydrometer is M and the density of air above the liquid is so small that it is negligible
    - Mg = ⍴H2OgVH2O
    - Mg = ⍴oilgVoil
    - 1 = ⍴oil \* Voil / ⍴H2O \* VH2O
    - Voil = VH2O + AΔh
    - Ɣoil = 1/(1 + (A/VH2O)Δh)