**Hydration**

1. Watch [this](https://www.youtube.com/watch?v=mj3c5NOJ2xk) video and create an algebraic equation where:  
     
    w = total weight (kg)  
    f = fat (kg)  
    g = proportion of water by gender and age (from 0 to 1)  
    V = volume of water needed to rehydrate (L)  
     
   *Equation:*
2. Calculate the volume of water required for the following people to be fully hydrated. Note that you may have to estimate g based on the figures given in the video:

|  |  |
| --- | --- |
| **Person** | **Volume (L)** |
| Healthy female, 40 years old, 67 kg |  |
| Healthy male, 40 years old, 75 kg |  |
| Obese male, 40 years old, 100 kg |  |
| Lean and muscular male basketball player, 20 years old, 60 kg |  |
| Stocky and muscular female weight lifter, 30 years old, 80 kg |  |
| Average baby, 6 months old, 7.5 kg |  |
| Average female, 75 years old, 75 kg |  |