1. One thousand water droplets with radius 10^{-6} m coalesce to form a single droplet. If the surface tension of water is 7.5×10^{-2} N m^{-1}, how much energy is liberated when the droplets coalesce?

$W = 2\gamma Area$ increasement
For a water droplet:

Surface a*rea* for 1 droplet = $4\pi(10^{-6}\text{ m})^2 = 1.26\ 10^{-11}\ \text{m}^2$
Surface area for 1000 droplets = $4\pi(10^{-3}\text{ m})^2 = 1.26\ 10^{-5}\ \text{m}^2$
Area increasement = $1.26\ 10^{-5}\ \text{m}^2 - 1.26\ 10^{-11}\ \text{m}^2 \approx 1.26\ 10^{-5}\ \text{m}^2$
$W = 2\gamma Area$ increasement = $2\ 7.5\ 10^{-2}\ \text{N m}^{-1}\ 1.26\ 10^{-5}\ \text{m}^2 = 1.88\ 10^{-6}$ J

The correct answer for this one is $8.48\ 10^{-10}$ J

Is there something I can remake that you would prefer? I am loaded with frustration with this exercise now