SECTION 2.5: WORK AND MASS (EXTRA)

1. Recall how we calculated work given both (a) a constant force and (b) a variable force. Recall units.

2. A rectangular fuel oil tank has dimensions 1 m $\times$ 1 m on the base and is 3 m in height. Assume the depth of the oil in the tank is 2 m. Calculate how much work is required to pump all the oil out of the top of the tank.

   (Facts to use: No. 2 fuel oil is roughly 900 kg/m^3. Hence, So the weight (force) density at sea level on earth, of heating oil, is $(9.81\ \text{m/s}^2) \cdot (900\ \text{kg/m}^3) = 8829\ \text{N/m}^3$. This means that a cubic meter of oil on a scale would push down 8829 N, compared to 1 kg of something pushing 9.81 N.)