

1. Each atom has a mass of $m = M/N_A$, where M is the molar mass and N_A is the Avogadro constant. The molar mass of arsenic is 74.9 g/mol or 74.9×10^{-3} kg/mol. 7.50×10^{24} arsenic atoms have a total mass of $(7.50 \times 10^{24})(74.9 \times 10^{-3} \text{ kg/mol})/(6.02 \times 10^{23} \text{ mol}^{-1}) = 0.933 \text{ kg}$.