**Calculating moles using mass**

The mass of one mole of substance is equal to its relative molecular mass (RMM) for a molecule or relative atomic mass (RAM) for an element.

Amount of substance in moles (mol) = mass (g)

molar mass (g mol-1)

1. Calculate the molar mass (RMM) and the amount of substance in moles for each of the following. Show all workings.
2. 32 g methane (molar mass = 16.0 g mol-1)
3. 175 g calcium carbonate, CaCO3
4. 200 mg aspirin, C9H8O4
5. Calculate the mass in grams of
6. 20 moles glucose (molar mass 180 g mol-1)
7. 5.00 x10-2 moles copper ions, Cu2+
8. 42.0 moles hydrated copper sulfate, CuSO4.5H2O

**Answers**

