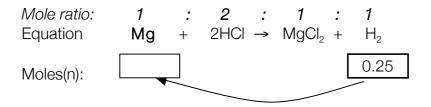
Equation Calculation Questions 2

For these, once you have calculated the number of moles, we can convert the moles to a mass by using $m = n \times M$.

Question 1 What mass of Sulfur Dioxide would be produced from 0.2 moles of Sulfur? Mole ratio: 1 8 8 1 Equation S_8 **8**SO₂ **8**0₂ +unknown known 0.2 Moles(n): x (8/1) Number of moles of sulfur dioxide produced = $0.2 \times (8/1) = \dots$ moles

$$M(SO_2) = 32.06 + (2 \times 16.00) \text{ (from table)} \\ = 64.06 \\ m = n \times M \\ So: mass of SO_2 = \dots \times 64.06 = q =$$

<u>Question 2</u> What mass of Magnesium would be required to produce 0.25 moles of Hydrogen gas?



<u>Question 3</u> Iron is produced from Haematite in a blast furnace from this reaction:

Mole ratio:	1	:	3	:	2	:	3
Equation	Fe ₂ O ₃	+	3CO	\rightarrow	2Fe	+	3CO ₂

(a) What mass of Haematite (Fe₂O₃) would produce 100 moles of iron?

(b) What mass of Carbon Dioxide would also be produced?