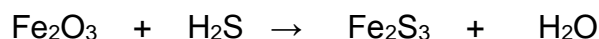


# IB MOLES PRACTICE TEST

- 1 Balance the following equation [1]

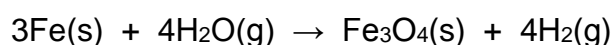


- 2 In the decomposition of a certain mass of  $\text{KClO}_3$ , 1.60 g of oxygen gas was produced:



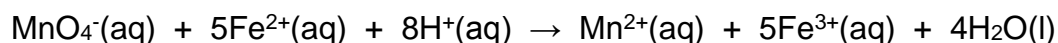
- Calculate the mass of  $\text{KClO}_3$  that decomposed? [3]

- 3 Red hot iron reacts with steam to produce hydrogen gas:



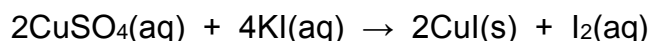
- Calculate the volume of hydrogen gas (measured at STP) produced when 2.80 g iron reacts with excess steam. [3]

- 4 Manganate(VII) ions  $[\text{MnO}_4^- (\text{aq})]$  react with iron(II) ions in the presence of acid ( $\text{H}^+$ ):



- Calculate the volume of  $0.100 \text{ mol dm}^{-3}$  iron(II) solution required to react exactly with  $25.00 \text{ cm}^3$  of  $0.0200 \text{ mol dm}^{-3}$   $\text{MnO}_4^- (\text{aq})$  in the presence of excess acid. [3]

- 5 Copper(II) sulfate reacts with potassium iodide to form a precipitate of copper(I) iodide:



- Calculate the mass of copper(I) iodide produced when  $25.00 \text{ cm}^3$   $0.100 \text{ mol dm}^{-3}$   $\text{CuSO}_4$  reacts with  $30.00 \text{ cm}^3$   $0.120 \text{ mol dm}^{-3}$   $\text{KI}$ . [3]