

# Using the mole

1) Work out the amount (moles) in the following samples.

a) 6.00 g of H<sub>2</sub>

~~3.00 mol~~ 3.00 mol

b) 12.0 g of CO<sub>2</sub> M<sub>r</sub> = 44 g/mol

0.27 mol

c) 16.2 g of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> M<sub>r</sub> = 132

0.12 mol

d) 1.34 g of Mn<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> M<sub>r</sub> = 354.7

3.78 mmol

e) 13.2 g of CuSO<sub>4</sub>·5H<sub>2</sub>O M<sub>r</sub> = 249.6

5.29 × 10<sup>-2</sup> mol

2) Work out the mass of the following samples.

a) 2.00 mol of N<sub>2</sub> M<sub>r</sub> = 28

56 g

b) 0.100 mol of SiO<sub>2</sub> M<sub>r</sub> = 60.1

6.01 g

c) 6.50 × 10<sup>-3</sup> mol of FeCl<sub>3</sub> M<sub>r</sub> = 162.4

1.06 g

d) 1.05 × 10<sup>-2</sup> mol of Na<sub>2</sub>CO<sub>3</sub> M<sub>r</sub> = 106

1.11 g

e) 2.37 × 10<sup>-2</sup> mol of MgSO<sub>4</sub>·H<sub>2</sub>O M<sub>r</sub> = ~~138~~

3.26

3.26

3) Balance the following equations.

