

## MOLES AND REACTING MASS CALCULATIONS

1) Calculate the number of moles in the following.

- a)  $1.00 \times 10^{-4}$  g of  $\text{H}_2\text{O}$       b) 20.0 kg of  $\text{Ca}(\text{NO}_3)_2$       c) 5.00 tonnes of oxygen

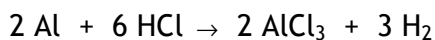
2) Calculate the mass of the following.

- a) 3.00 moles of Al  
b)  $5.00 \times 10^6$  moles of  $\text{C}_6\text{H}_6$   
c)  $1.00 \times 10^{-5}$  moles of ammonia

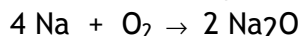
3) Calculate the  $M_r$  of the following substances.

- a) 0.0150 moles has a mass of 1.11 g  
b)  $3.70 \times 10^{-5}$  moles has a mass of  $1.554 \times 10^{-3}$  g

4) What mass of hydrogen is produced when 10.0 g of aluminium reacts with excess hydrochloric acid?



5) What mass of sodium just reacts with 40.0 g of oxygen?



6) What mass of nitrogen is produced when 2.00 tonnes of ammonia gas decomposes?



7) What mass of oxygen is produced when 136 g of hydrogen peroxide molecules decompose?



8) What mass of lead (II) oxide is produced when 0.400 moles of lead (II) nitrate decomposes?



Total = (13)      % =      Grade =