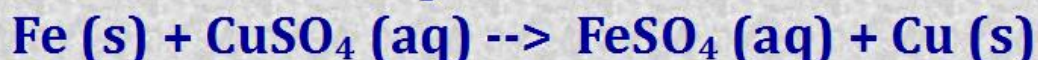


#73 Given the balanced equation:



What mass of iron is necessary to produce 1.00 mole of copper?


(A) 26.0 g (B) 55.8 g (C) 112 g (D) 192 g

#74 Given the reaction:  $4 \text{Al (s)} + 3 \text{O}_2 \text{ (g)} \rightarrow 2 \text{Al}_2\text{O}_3 \text{ (s)}$

What is the minimum number of grams of oxygen required to produce 1.00 mole of aluminum oxide?

(A) 32.0 g (B) 48.0 g (C) 96.0 g (D) 192 g

#75 Given the reaction:  $\_ \text{Ca}(\text{ClO}_3)_2 \rightleftharpoons \_ \text{CaCl}_2 + \_ \text{O}_2$

How many moles of calcium chlorate are needed to decompose in order to produce 35.00 g of oxygen gas? 

(A) 0.363 moles (B) 1.09 moles  
(C) 40.3 moles (D) 75.1 moles

#76 Given the reaction:  $\_ \text{Al (s)} + \_ \text{O}_2 \text{ (g)} \rightleftharpoons \_ \text{Al}_2\text{O}_3 \text{ (s)}$

What is the minimum number of grams of oxygen gas required to produce 1.25 moles of aluminum oxide?

(A) 48.0 g (B) 60.0 g  
(C) 32.0 g (D) 0.376 g

#77 Given the unbalanced equation:  $\_ \text{NaClO}_3 \rightarrow \_ \text{O}_2 + \_ \text{NaCl}$   
What mass of oxygen gas can be produced by the decomposition of 67.8 grams of sodium chlorate?  
(A) 13.6 g (B) 20.4 g (C) 30.6 g (D) 55.6 g

#78 Given the unbalanced equation:  
 $\_ \text{C}_3\text{H}_8 + \_ \text{O}_2 \rightarrow \_ \text{CO}_2 + \_ \text{H}_2\text{O}$   
How many grams of water can be produced by the complete reaction of 45.0 grams of propane ( $\text{C}_3\text{H}_8$ )?  
(A) 4.60 g (B) 18.4 g (C) 73.6 g (D) 180. g

#79 Three isotopes of carbon are indicated:  ${}^{12}_6\text{C}$ ,  ${}^{13}_6\text{C}$ , and  ${}^{14}_6\text{C}$   
How are these isotopes alike? They have the same number of  $\_$  and the same atomic  $\_$ .  
(A) protons; mass (B) neutrons; mass  
(C) protons; number (D) neutrons; number

#80 Which statement correctly compares an atom of boron-11 and an atom of carbon-14?  
Boron-11 has one fewer  $\_$  and  $\_$  fewer  $\_$  than carbon-14.  
(A) proton; two; neutrons (B) neutron; two; protons  
(C) proton; three; neutrons (D) neutron; three; protons

#81 Which sample contains a total of  $6.0 \times 10^{23}$  atoms?  
(A) 24 g C (B) 42 g Kr  
(C) 23 g Na (D) 78 g K

#82 An atom with the electron configuration of  $1s^2 2s^2 2p^6 3s^2$  would most likely  $\_$  in size as it forms a  $\_$  ion.  
(A) decrease; negative (B) decrease; positive  
(C) increase; negative (D) increase; positive

#83

An atom of which of the following elements has the *smallest* atomic radius?

- (A) Li      (B) Be      (C) C      (D) F

#84

How many atmospheres are equal to 772.3 mm Hg?

- (A) 586,900    (B) 0.9841    (C) 1.016    (D) 102.9