

**#61** The molecular formula of a compound is  $X_3Y_6$ .  
What is the empirical formula?  
(A)  $X_3Y$       (B)  $X_2Y$       (C)  $XY_2$       (D)  $XY_3$

**#62** A compound contains 36.48% sodium, 25.44% sulfur, and 38.08% oxygen. What is the empirical formula for this compound?  
(A)  $NaSO_3$       (B)  $NaSO_4$   
(C)  $Na_2SO_3$       (D)  $Na_2SO_4$

**#63** The oxide of metal X has the formula  $XO$ .  
Which group on the Periodic Table contains metal X? (A) Group 1      (B) Group 2  
(C) Group 13      (D) Group 17

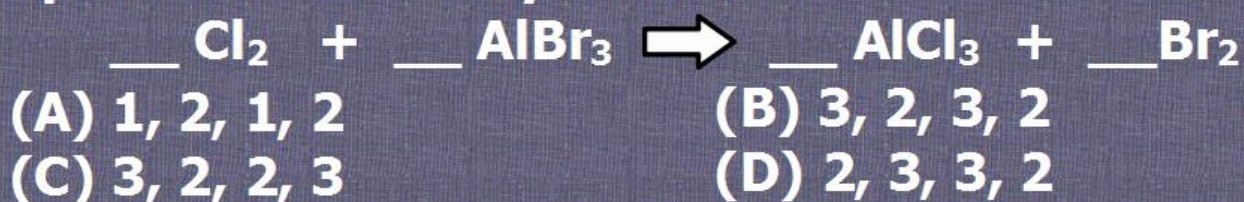
**#64** What is the empirical formula of a compound that consists of 16.4% magnesium, 18.9% nitrogen, and 64.7% oxygen?  
(A)  $MgNO_3$       (B)  $Mg(NO_3)_2$   
(C)  $MgNO_2$       (D)  $Mg(NO_2)_2$

**#65** What is the correct formula for iron (II) sulfide?  
(A)  $FeS$       (B)  $Fe_2S_3$   
(C)  $FeSO_3$       (D)  $Fe_2(SO_3)_3$

**#66** How many grams are equal to 1.757 moles of calcium phosphate,  $Ca_3(PO_4)_2$ ?  
(A) 545.2 g      (B) 0.005662 g  
(C) 176.6 g      (D)  $1.058 \times 10^{24}$  g

#67 What type of equation involves two separate elements combining to form one compound?  
(A) single replacement (B) synthesis  
(C) double replacement (D) decomposition

#68 What are the coefficients when the following equation is correctly balanced?



#69

What is the oxidation number of chromium in  $\text{Na}_2\text{Cr}_2\text{O}_7$ ?

(A) +5 (B) +6 (C) +7 (D) +2

#70

What is the percent of chromium by mass in  $\text{Na}_2\text{Cr}_2\text{O}_7$ ?

(A) 39.7% (B) 42.7% (C) 19.8% (D) 17.6%

#71 When combining with nonmetallic atoms, metallic atoms will generally

- (A) lose electrons and form negative ions
- (B) lose electrons and form positive ions
- (C) gain electrons and form negative ions
- (D) gain electrons and form positive ions

#72 Which substance can be decomposed by a chemical change?

- (A) beryllium (B) boron
- (C) methane (D) magnesium