



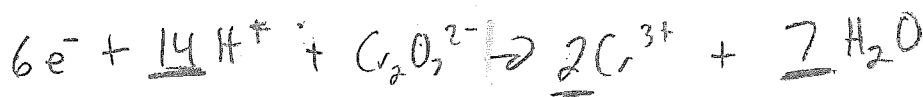
④  
7 x 15



ox:

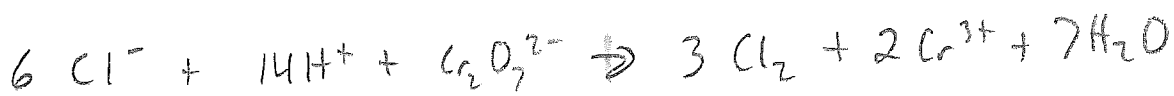


red:



14+ + 2-  
-12+

6+



⑤

a)

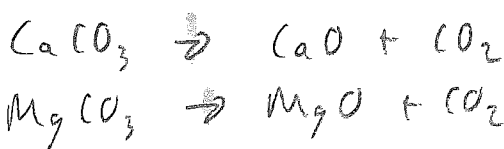
$$PV = nRT$$

$$\frac{g}{mm}$$

$$g = \frac{PV \cdot mm}{RT} = \frac{(750 \text{ mmHg})(0.0750 \text{ L})(44.01 \text{ g/mol})}{\left(\frac{62.4 \text{ mmHg L}}{\text{mol K}}\right)(293 \text{ K})}$$

$$\boxed{0.135 \text{ mol CO}_2}$$

b)



c)

$$.0448 \text{ g Ca} \times \frac{100.1 \text{ g CaCO}_3}{40.08 \text{ g Ca}} = \frac{.112 \text{ g CaCO}_3}{.2800} = 40\%$$

d)

$$.2800 - .112$$

$$.168 \text{ g MgCO}_3 \times \frac{40.31 \text{ g MgO}}{84.32 \text{ g MgCO}_3} = .0803 \text{ g MgO}$$

6

a)  $50.0 \text{ mL} \times \frac{.250 \text{ mol}}{\text{L}} \times \frac{16}{100 \text{ mL}} = .0125 \text{ mol NaCl} = .0125 \text{ mol Cl}^-$

$\frac{8}{8} \times 20$

$75.0 \text{ mL} \times \frac{.500 \text{ M}}{\text{L}} \times \frac{2 \text{ mol Cl}^-}{1 \text{ mol CaCl}_2} = .0750 \text{ mol Cl}^-$

$.0875 \text{ mol Cl}^-$



c)  $.0875 \text{ mol Cl}^- \times \frac{1 \text{ mol PbCl}_2}{2 \text{ mol Cl}^-} \times \frac{278.1 \text{ g}}{1 \text{ mol PbCl}_2} = \boxed{12.2 \text{ g PbCl}_2}$

d)

$\frac{.0125 \text{ mol Na}^+}{(50 + 75 + 500) \text{ mL}} = .0200 \text{ M Na}^+$   
 $.625 \text{ L}$

$\frac{.0375 \text{ mol Ca}^{2+}}{.625 \text{ L}} = .0600 \text{ M Ca}^{2+}$

$.0200 \text{ M Na}^+$   
or  
 $.0600 \text{ M Ca}^{2+}$