

density  $1.0 \text{ g/mL}$  or  $1.0 \text{ g/cm}^3$   
 $1.0 \text{ kg/L}$   
 $1 \text{ mL} = 1 \text{ cm}^3$   
 $760 \text{ mmHg}$ ,  $1.0 \text{ atm}$ ,  $101.3 \text{ kPa}$

May 26-10:39 AM

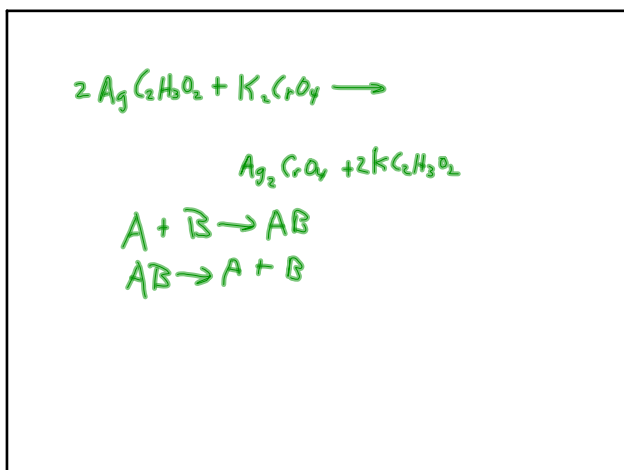
$273 \text{ K}$  or  $0^\circ \text{C}$   
 $6.02 \times 10^{23}$   
 $\text{K} - 273 = ^\circ \text{C}$   
 $^\circ \text{C} + 273 = \text{K}$

May 26-10:43 AM

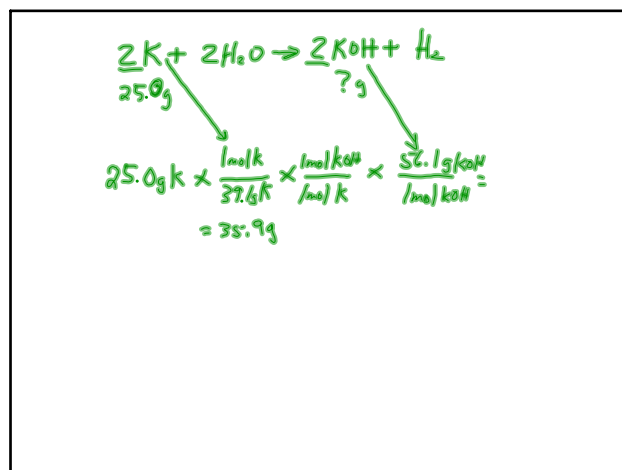
$\text{I}_2$   
 $\text{Br}_2$   
 $\text{Cl}_2$   
 $\text{F}_2$   
 $\text{O}_2$   
 $\text{N}_2$   
 $\text{H}_2$

May 26-10:44 AM

May 26-12:50 PM



May 26-10:46 AM



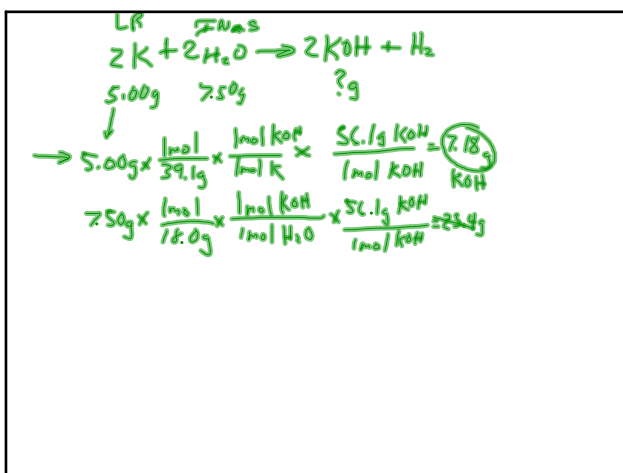
May 26-10:49 AM

$$10.0gK \times \frac{1molK}{39.1gK} \times \frac{1molH_2O}{1molK} \times \frac{18.0gH_2O}{1molH_2O} = 4.60gH_2O$$

May 26-10:51 AM

$$.099gK \times \frac{1molK}{39.1gK} \times \frac{1molH_2}{2molK} \times \frac{22.4L}{1mol} = .0284L H_2$$

May 26-10:53 AM



May 26-10:55 AM

→ Combined

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

→ Grams

$$\frac{75.0kPa \times 25.0L}{308K} = \frac{55.0kPa \times V_2}{330K}$$

$V_2 = 36.5L$

Rate =  $\sqrt{\frac{m_2}{m_1}}$

$H_2$  is faster  $\sqrt{\frac{32}{2}}$

$O_2 = 32g/mol$   
 $H_2 = 2g/mol$

May 26-11:00 AM