

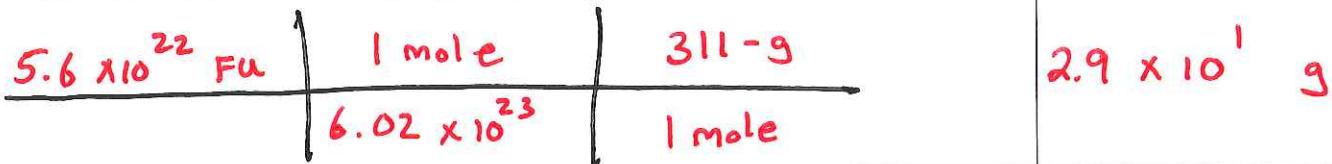
Using the Molar Road Map

(Honors Chemistry)

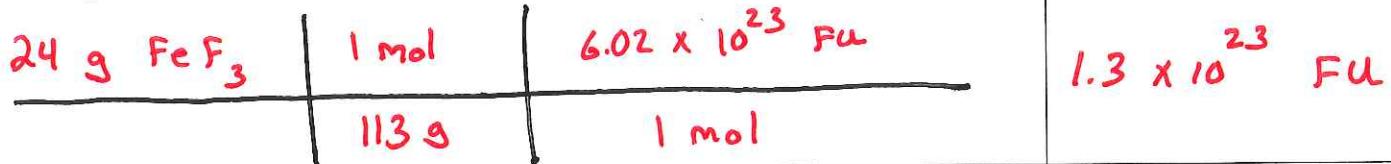
Put all answers in scientific notation with units. Show all work!

1. 56.78 g of lead (IV) sulfate → RP @ STP	$\begin{array}{c c c} 56.78\text{-g } \text{Pb}(\text{SO}_4)_2 & 1\text{ mol} & 6.02 \times 10^{23} \text{ fu} \\ \hline & 399\text{-g} & 1\text{ mole} \end{array}$	$8.567 \times 10^{22} \text{ fu }$ $\text{Pb}(\text{SO}_4)_2$
2. 67.51 L of Carbon dioxide → RP @ STP	$\begin{array}{c c c} 67.51\text{-L } \text{CO}_2 & 1\text{ mole} & 6.02 \times 10^{23} \text{ molecules} \\ \hline & 22.4\text{-L} & 1\text{ mole} \end{array}$	$1.814 \times 10^{24} \text{ molecules}$
3. 57.8 g of chlorine → liters @ STP	$\begin{array}{c c c} 57.8\text{-g Cl}_2 & 1\text{ mole} & 22.4\text{-L} \\ \hline & 71\text{-g} & 1\text{ mole} \end{array}$	$1.82 \times 10^1 \text{ -L}$
4. 7.32×10^{23} atoms of argon → liters @ STP	$\begin{array}{c c c} 7.32 \times 10^{23} \text{ atoms} & 1\text{ mole} & 22.4\text{-L} \\ \hline & 6.02 \times 10^{23} \text{ atoms} & 1\text{ mole} \end{array}$	$2.72 \times 10^1 \text{ -L}$
5. 117.0 g of carbon monoxide → liters @ STP	$\begin{array}{c c c} 117.0\text{-g CO} & 1\text{ mole} & 22.4\text{-L} \\ \hline & 28\text{-g} & 1\text{ mol} \end{array}$	$9.360 \times 10^1 \text{ -L}$
6. 2.08×10^{25} atoms of gold → grams @ STP	$\begin{array}{c c c} 2.08 \times 10^{25} \text{ atoms} & 1\text{ mole} & 197\text{-g} \\ \hline & 6.02 \times 10^{23} \text{ atoms} & 1\text{ mole} \end{array}$	$6.81 \times 10^3 \text{ -g}$
7. 84.27 L of PCl ₅ → grams @ STP	$\begin{array}{c c c} 84.27 \text{ L} & 1\text{ mole} & 208.5\text{-g} \\ \hline & 22.4\text{-L} & 1\text{ mole} \end{array}$	$7.844 \times 10^2 \text{ g}$

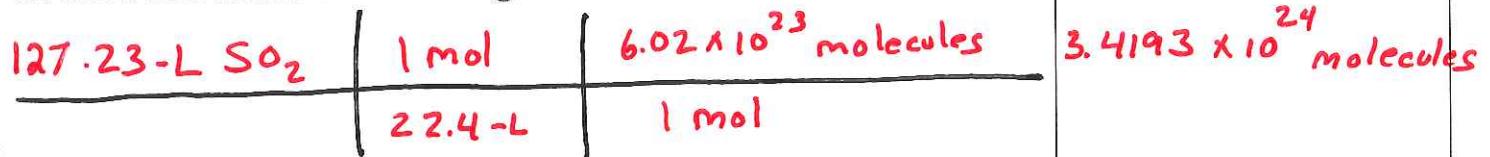
8. 5.6×10^{22} formula units of $\text{Sn}(\text{SO}_4)_2$ → grams @ STP



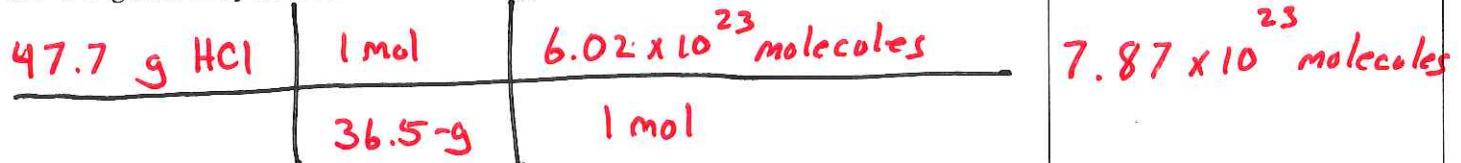
9. 24 grams of iron (III) fluoride → RP @ STP



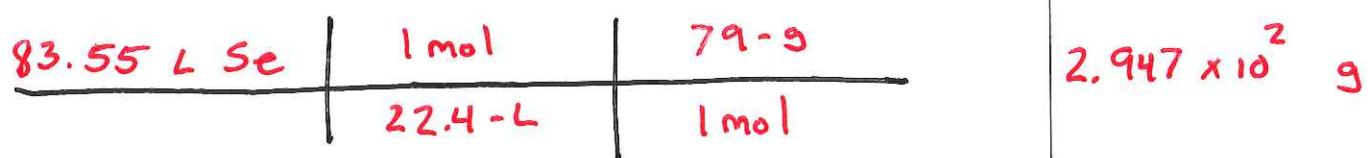
10. 127.23 liters of sulfur dioxide → RP @ STP



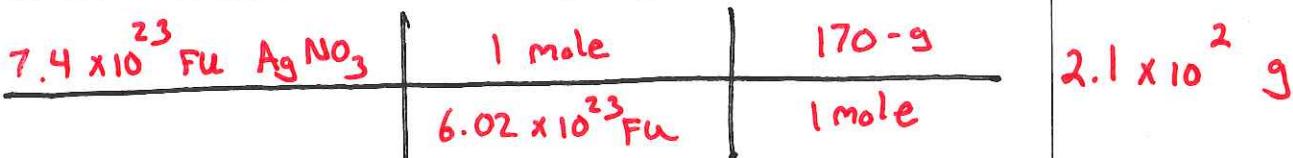
11. 47.7 grams of hydrochloric acid → RP @ STP



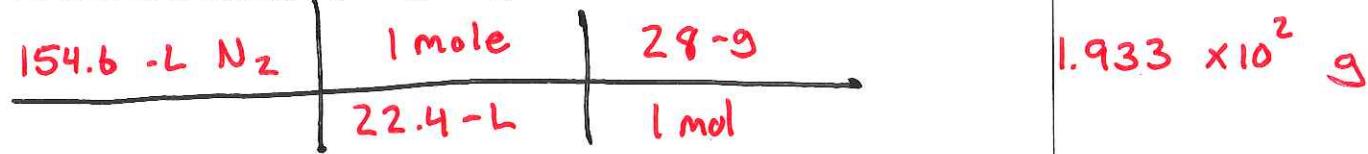
12. 83.55-liters of selenium → grams @ STP



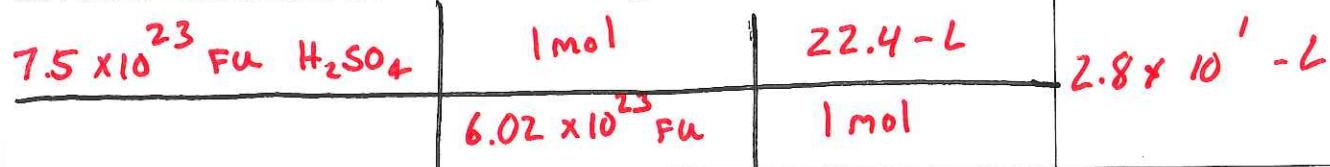
13. 7.4×10^{23} formula units of silver nitrate → grams @ STP



14. 154.6 liters of nitrogen gas → grams @ STP



15. 7.5×10^{23} formula units of sulfuric acid → liters @ STP



16. 9.4×10^{25} molecules of hydrogen → liters @ STP

