NO CREDIT IF YOU: Fail to put in the Units \& Properly Round, Fail to show ALL math work
Max Grade: 104 points

## PRINT NAME ON LINE

CHECK CORRECT BOX OR LOOSE 20 PTS
Wed Afternoon Lab
Wed Evening Lab

Test End time
Test Start time
(1 pt) Test Elapsed time
$\qquad$

## A. Answer the following ( $8 * 4$ Points each $=32$ pts )

1. In order to have a Limiting Reagant Calculation, you need:
2. What is meant by the term "Theoritical Yield"
3. A Bronstead-Lowrey Acid is:
4. A Lewis Base is:

5-6. For the reaction of Hydrochloric Acid ionizing in water to form the Hydronium and Chloride ions, write the reaction and label the Conjugate Acid / Base pair and which are the acids and bases:
7. The $\mathbf{p H}$ of distilled water is:
8. The pH of a solution of Drano [ Sodium Hydroxide] is approximately:

## A. Solve the following problems

A-1. If I try to react 10.0 g of Magnesium and 12. g of Hydrochloric Acid, $(10 \mathrm{pts}) \mathrm{A}$. Write the complete balanced equations
$(10 \mathrm{pts})$ B. Will this reaction go to completion?
( 20 pts ) C. How much of each product is generated?
(20) A-2. If I try to react $10 . \mathrm{g}$ of Sodium Bromide reacting with 12.0 g of Silver Nitrate, if the reaction goes to completion, how much excess of the reagent in excess is there
(10 pts) A-3. If I try to react 10. g of Hydrochloric Acid with 12. g Potassium Hydroxide, if the reaction goes to completion, how much product if formed if the reaction goes to $\mathbf{7 5 \%}$ completion?
(1 pt) DID YOU CHECK FOR SIGNIFICANT DIGITS $\qquad$ Yes $\qquad$ No ( 1 pt ) DID YOU CHECK FOR PROPER UNITS

Yes $\qquad$
( 1 pt ) How do you rate this test from 1 to 10
1 = Very Easy, can do it with my eyes closed, $10=$ Very Very Difficult, could not do any of the problems

| 1 | $\begin{gathered} \hline 1 \\ \hline \mathbf{H} \\ 1.008 \end{gathered}$ | 2A |  |  |  |  |  |  |  |  |  |  | 3A | 4A | 5A | 6A | $7_{\mathrm{A}}^{\prime}$ | $\begin{gathered} \hline 2 \\ \text { He } \\ 4.003 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\int_{2}$ | $\begin{gathered} \hline 3 \\ \mathbf{L i} \\ 6.941 \end{gathered}$ | $\begin{gathered} 4 \\ \mathbf{B e} \\ 9.012 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  | $\begin{array}{\|c\|} \hline 5 \\ \mathbf{B} \\ 10.81 \\ \hline \end{array}$ | $\begin{gathered} \hline 6 \\ \mathbf{C} \\ 12.01 \end{gathered}$ | $\begin{gathered} \mathbf{7} \\ \mathbf{N} \\ 14.01 \end{gathered}$ | $\begin{array}{\|c\|} \hline 8 \\ \mathbf{0} \\ 16.00 \end{array}$ | $\begin{gathered} 9 \\ \mathbf{F} \\ 19.00 \end{gathered}$ | 10 <br> Ne <br> 20.18 |
| 3 | $\begin{gathered} 11 \\ \mathbf{N a} \\ 22.99 \end{gathered}$ | $\begin{gathered} 12 \\ \mathbf{M g} \\ 24.31 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  | 13 <br> A1 <br> 26.98 | 14 $\mathbf{S i}$ 28.09 | $\begin{gathered} \mathbf{1 5} \\ \mathbf{P} \\ 30,97 \end{gathered}$ | $\begin{gathered} 16 \\ \mathbf{S} \\ 32.07 \end{gathered}$ | $\begin{gathered} 17 \\ \text { Cl } \\ 35.45 \end{gathered}$ | $\begin{array}{\|c\|} \hline \mathbf{1 8} \\ \mathbf{A r} \\ 39.95 \end{array}$ |
| 4 | $\begin{gathered} 19 \\ \mathbf{K} \\ 39.10 \end{gathered}$ | $\begin{gathered} 20 \\ \text { Ca } \\ 40.08 \end{gathered}$ | $\begin{array}{r} 21 \\ \text { Sc } \\ 344.96 \end{array}$ | $\begin{gathered} 22 \\ \mathbf{T i} \\ 47.88 \end{gathered}$ | $\begin{gathered} 23 \\ \mathbf{V} \\ 50.94 \end{gathered}$ | $\begin{gathered} 24 \\ \mathbf{C r} \\ 52.00 \end{gathered}$ | $\begin{gathered} 25 \\ \mathbf{M n} \\ 54.94 \end{gathered}$ | $\begin{gathered} 26 \\ \mathbf{F e} \\ 55.85 \end{gathered}$ | $\begin{gathered} 27 \\ \text { Co } \\ 58.93 \end{gathered}$ | $\begin{gathered} 28 \\ \mathbf{N i} \\ 58.69 \end{gathered}$ | $\begin{gathered} 29 \\ \mathbf{C u} \\ 63.55 \end{gathered}$ | 30 $\mathbf{Z n}$ 65.38 | 31 Ga 69.72 | 32 <br> $\mathbf{G e}$ <br> 72.59 | 33 As 74.92 | 34 Se 78.96 | 35 $\mathbf{B r}$ 79.90 | $\begin{array}{\|c\|} \hline 36 \\ \mathbf{K r} \\ 83.80 \end{array}$ |
| 5 | $\begin{gathered} 37 \\ \mathbf{R b} \\ 85.47 \end{gathered}$ | $\begin{gathered} 38 \\ \mathbf{S r} \\ 87.62 \end{gathered}$ | $\begin{gathered} 39 \\ \mathbf{Y} \\ 88.91 \end{gathered}$ | $\begin{gathered} 40 \\ \mathbf{Z \mathbf { r }} \\ 91.22 \end{gathered}$ | $\begin{gathered} 41 \\ \mathbf{N b} \\ 92.91 \end{gathered}$ | $\begin{gathered} 42 \\ \text { Mo } \\ 95.94 \end{gathered}$ | $\begin{gathered} 43 \\ \mathbf{T c} \\ (98) \end{gathered}$ | $\begin{gathered} 44 \\ \mathbf{R n} \\ \mathbf{R u} \\ \hline 101.1 \end{gathered}$ | $\begin{gathered} 45 \\ \mathbf{R h} \\ \mathbf{R h} \\ 102.9 \end{gathered}$ | $\begin{gathered} \hline 46 \\ \text { Pd } \\ 106.4 \end{gathered}$ | $\begin{gathered} 47 \\ \mathbf{A g} \\ 107.9 \end{gathered}$ | $\begin{gathered} 48 \\ \text { Cd } \\ 112.4 \end{gathered}$ | $\begin{gathered} 49 \\ \text { In } \\ 114.8 \end{gathered}$ | 50 $\mathbf{S n}$ 118.7 | 51 <br> $\mathbf{S b}$ <br> 121.8 | 52 $\mathbf{T e}$ 127.6 | $\begin{gathered} 53 \\ \mathbf{I} \\ 126.9 \end{gathered}$ | 54 <br> $\mathbf{X e}$ <br> 131.3 |
| 6 | $6 \begin{gathered} 55 \\ \mathbf{C s} \\ 132.9 \end{gathered}$ | $\begin{gathered} 56 \\ \mathbf{B a} \\ 137.3 \end{gathered}$ | 57 La* $^{*}$ 138.9 | $\begin{gathered} 72 \\ \text { Hf } \\ 178.5 \end{gathered}$ | $\begin{gathered} 73 \\ \mathbf{T a} \\ 180.9 \end{gathered}$ | $\begin{gathered} 74 \\ \mathbf{W} \\ 183.9 \end{gathered}$ | $\begin{gathered} 75 \\ \mathbf{R e} \\ 186.2 \end{gathered}$ | $\begin{gathered} 76 \\ \text { Os } \\ 190.2 \end{gathered}$ | $\begin{gathered} 77 \\ \mathbf{I r} \\ 192.2 \end{gathered}$ | $\begin{gathered} 78 \\ \mathbf{P t} \\ 195.1 \end{gathered}$ | $\begin{gathered} 79 \\ \mathbf{A u} \\ 197.0 \end{gathered}$ | $\begin{gathered} 80 \\ \mathbf{H g} \\ 200.6 \end{gathered}$ | $\begin{gathered} 81 \\ \mathbf{~ T 1} \\ 204.4 \end{gathered}$ | 82 <br> $\mathbf{P b}$ <br> 207.2 | $\begin{array}{\|c\|} \hline 83 \\ \mathbf{B i} \\ 209.0 \\ \hline \end{array}$ | 84 <br> Po <br> $(209)$ | $\begin{gathered} 85 \\ \text { At } \\ \text { (210) } \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 86 \\ \mathbf{R n} \\ (222) \end{array}$ |
| 7 | $7 \begin{gathered} 87 \\ \mathbf{F r} \\ (223) \end{gathered}$ | $\begin{array}{r} 88 \\ \mathbf{R a} \\ 226 \\ \hline \end{array}$ | $\begin{gathered} 89 \\ \mathbf{A c}^{* *} \\ (227) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 104 \\ \text { Rf } \\ (261) \\ \hline \end{array}$ | $\begin{gathered} 105 \\ \mathbf{D b} \\ (262) \end{gathered}$ | $\begin{gathered} 106 \\ \mathbf{S g} \\ (263) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 107 \\ \text { Bh } \\ (264) \\ \hline \end{array}$ | $\begin{gathered} 108 \\ \text { Hs } \\ (265) \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline 109 \\ \text { Mt } \\ (268) \\ \hline \end{array}$ | $\begin{gathered} 110 \\ \text { Ds } \\ (271) \\ \hline \end{gathered}$ | $\begin{gathered} 111 \\ \mathbf{R g} \\ (272) \\ \hline \end{gathered}$ | $\begin{aligned} & 112 \\ & \text { Uub } \end{aligned}$ | $\begin{aligned} & 113 \\ & \text { Uut } \end{aligned}$ | $\begin{gathered} 114 \\ \text { Uuq } \end{gathered}$ | $\begin{gathered} 115 \\ \text { Uup } \end{gathered}$ |  |  |  |

