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| Inventing appropriate conversion factorsCλeMis+ry: http://genest.weebly.com Stop in for help every day at lunch and Tues, Weds., &Thurs after school!After-hours question? Email me at home: eagenest@madison.k12.wi.us |   | Name\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Calculate the answer in each case, writing both number and correct UNIT.
	1. $\left(\frac{4 moles Fe}{1}\right)x\left(\frac{ 3 moles H\_{2}^{}O}{2 moles Fe}\right)x\left(\frac{ 18.02 grams H\_{2}^{}O}{ 1 moles H\_{2}^{}O}\right)=$
	2. $\left(\frac{4 mL Fe}{1}\right)x\left(\frac{11 grams Fe}{2 mL Fe}\right)x\left(\frac{ 55.85 grams Fe}{ 1 mole Fe}\right)=$

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|  | http://www.photos-public-domain.com/wp-content/uploads/2010/08/paper_clip_heart.jpg | 1 gross paperclips = 144 paperclips1 paperclip = 3.00 cm long 1 paperclip = 0.977 grams |  |  |
|  |  |  |

1. Using only the information above, fill in these conversion factors

1 box of paperclips = \_\_\_\_ dollars

1 box of paperclips = \_\_\_\_ paperclips

1 paperclip heart = \_\_\_\_ paperclips

1. Using only the Equalities above, fill in the missing conversion factors and calculate the answer.
2. . $\left(\frac{9 paperclip hearts}{1}\right)x\left(\frac{ }{ }\right)x\left(\frac{ grams}{ clips}\right)=$ grams
3. .$\left(\frac{33 clips}{1}\right)x\left(\frac{ }{ }\right)x\left(\frac{ dollars }{ boxes of clips}\right)=$ dollars
4. . $\left(\frac{53 boxes of clips}{1}\right)x\left(\frac{ }{ }\right)x\left(\frac{ meters}{ cm}\right)=$ meters
5. .$\left(\frac{13 dollars}{1}\right)x\left(\frac{ }{ }\right)x\left(\frac{ clips }{ boxes of clips}\right)=$ clips
6. Imagine that 100. grams of aluminum and 100 grams of chlorine gas ( remember: wacky 7 formula for the chlorine molecule…) react according to the following stoichiometery

2Al(s) + 3Cl2(g) 🡪 2AlCl3(s)

Which reagent will be the limiting reagent? How many grams of AlCl3(s)will form?



Step 2) Both of your statements in Step 1 can’t be right. The one that will actually happen is the one that makes the least moles of product. Below this box write “The limiting reactant is\_\_\_\_”



1. Use the same three steps you used on the example from class. Imagine that 67.00 grams of aluminum and 60.50 grams grams of chlorine gas react according to the following stoichiometery

2Al(s) + 3Cl2(g) 🡪 2AlCl3(s)

Which reagent will be the limiting reagent? How many grams of AlCl3(s)will form?