iLrn/ThomsonNOW info and hints:

For typing answers into ThomsonNOW in the correct form, the best guides are the answers in the back of the book, the answers on the even answer overheads in the recitations, and the answers your lecturers recommend.

HW 28 - I could think of no appropriate hints. The problems are quite well behaved.

<u>General:</u> You should always give an exact answer unless asked to give an approximation, (a fraction, log(7), pi/3, etc.).

General: If a problem tells you to use common logs, that means to use log base 10, $(\log(x), \log(122/13), \log(x+10), \text{ etc.})$

 \underline{HW} 29A #18 - As in the answer to the similar problem that appears in the back of the book, ThomsonNOW does not want you to multiply out denominator of the fraction.

HW 29B #15 - For some reason, ThomsonNOW wants you to multiply out denominator of the fraction, unlike the answer in the back of the book for the similar problem.

<u>**HW 30A 1.2, etc. General**</u> - There are a templates for logarithms of any base on the equation palette (any base, base e, and base 10). You can use log(a,b) where a is the base, but you do not have to. Kind of like frac(a,b) versus using the fraction template.

HW 30A #4 - The problem asks for 3 significant figures, but really wants 3 decimal places. (43.56743 should be rounded to 43.567)

HW 30A #7, 30B #7,8 - type in answers in a function notation like f(x)=-2F(x+5), f(x)=-2g(x+5), etc.

HW 30B #6 part 6(may apply to a few other problems here and there as well) - regarding the y-intercept, when you plug zero in for x if you get something like log base 5 of 8, type it in as (0, log base 5 (8)), where the base '5' should be a subscript after the word 'log'.

HW 30B #12 - Follow the rounding directions for the answer explicitly and make sure you correctly interpret the problem and what type of answer is expected. However, keep in mind that if it takes 12.2 years to reach the target population, that the target population will not be reached when 12 years have passed, so the real and more correct answer would be 13 years and rounded up. I will not try to trick you on exams with this, but be aware of this subtlety. Again, for ThomsonNOW on this particular problem, simply round to the nearest integer as it asks you to do. Always follow the directions as explicitly as possible on problems in general, but if I am unsure on any problem, I try rounding maybe down first and then try the rounding up if that fails.

<u>HW 30B #13</u> - The normal subscript template works fine for entering q sub zero. If instead you use the asked for q_{0} , ThomsonNOW seems to give the subscript as soon as you press shift-underline and then you can just press zero.

HW 30B #14 - the word 'contaminated' should basically be 'returns to a safe level of contamination'. The level of radioactivity should be decreasing as time passes.

HW 31A #3,4 & HW 31B #2 - ThomsonNOW wants only the x- or y-coordinate of the x- or y-intercept rather than the more correct coordinate pair of the point where the graph of the function intersects either the x- or y-axis. On quizzes, always give answers for the x- and y-intercepts as coordinate pairs as we have done consistently in lectures.

HW 31A #14 - Use natural logs (ln) to solve the problem.

HW 31B #9 - The problem is working fine in iLrn. Keep at it. Read and interpret the problem carefully.

HW 31B #11 - The wording in messed up. What you are trying to find is the following:

Express in terms of the radiation length, the thickness at which the electron loses ??% of its initial energy. The normal subscript template works fine for entering x sub zero. If instead you use the asked for x_{0} , ThomsonNOW seems to give the subscript as soon as you press shift-underline and then you can just press zero.

**General: 'separate values' means 'exact values'.

****General:** Rationalizing the denominator of something like '1/sqr(6)' to 'sqr(6)/6' is usually not required by iLrn.

****General:** You should always give an exact answer unless asked to give an approximation, (a fraction, log(7), pi/3, etc.).

HW 32A #14 & 32B #12 - You may or may not need to mess with the following, but even so this could also be useful information for transforming answers into a different form, which might be especially useful on an exam. I did not need this, but students in the past have occasionally found the following useful. If nothing else it does

talk about how to manipulate your answers into a different form when needed. Using the idea of raising a fraction to the -1 power means to take the reciprocal:

 $\log(1/8) = \log((8)^{-1}) = -\log(8).$

Thereby an answer such as $\log(1/3)/(\log(4/7))$ could be written several ways.

 $\log(1/3)/(\log(4/7)) = -(\log(3)/(\log(4/7))) = -(\log(1/3))/(\log(7/4))) = \log(3)/(\log(7/4))$

For some reason ThomsonNOW has occasionally been looking for one of the answers with the negative sign in front of the fraction.

A big clue that this is a problem for you is if you are getting part 2 correct on the problem, but it is not accepting your answer to part 1.

HW 32B #10 - As you would suspect, the answer should indeed be a number of years and then rounded appropriately.

<u>HW 32B # 14</u> - something like $\ln((1+x)^c)$ should be typed as $c*\ln(1+x)'$

HW33A #2 - iLrn strangely does not want something like sqr(8) simplified to 2*sqr(2).

HW33A #3 & HW33B #1 I noticed that it doesn't matter what order you put your answers in. To me, I would think this allows room for error in that we may not know the difference between csc, sec, or well you get the idea. So, be careful of that, some iLrn problems will require a specific order, as they should, while other problems will not, make sure you know which ratio corresponds to which trig function.

HW33A #7 - iLrn wants an exact decimal answer rather than an exact fraction.

HW33A #11 - The ft/sec number given in the problem has been rounded off in some cases. Therefore using that number for your calculations will prove slightly inaccurate. Only by 0.1 in my case, but that was enough to be incorrect. If you use the mi/hr and convert that to ft/sec and then using that more exact value for the ft/sec, that will work.

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HW 34A #1: not a biggie, but the triangle displayed does not have a 90 degree symbol in the picture, but the answers correspond to a right triangle.

HW 34A #3: You might want to make a note that when using your calculator, you need to use radian mode when entering your calculations.

HW34A #'s 4, 5, 10 & HW34B #6 I noticed that it doesn't matter what order you put your answers in. To me, I would think this allows room for error in that we may not know the difference between csc, sec, or well you get the idea. So, be careful of that, some iLrn problems will require a specific order, as they should, while other problems will not, make sure you know which ratio corresponds to which trig function.

HW 34B #9 & #8: The way iLrn wants you to format your answer is almost

ridiculous. ..."almost" A couple of key hints: When entering in theta, it

must be put in parenthesis (theta). With no spaces between it and whatever follows, such as sin(theta) or cos(theta).

*For for #9, the numerator needs to be enclosed in parentheses.

HW 34B #9 MORE - For something like the square root of 1-(csc(theta))^2

then divided by cos(theta).

Type in your answer like $sqr(1-(csc(theta))^2)/cos(theta)$. If you have

the right answer, then this form will work.

NOTE: also 'sec(theta)^2' is interpreted by iLrn as (sec(theta))^2,

which is what you want if you want to square a trigonometric function of theta.

EVEN MORE HW 34B #9 - From one of you guys; ... #9 is where I got stuck, because even if I put theta in parenthesis immediately following the square, iLrn still perceived it as if I was multiplying it. So,... if you have something like sqr(1-cos2(theta)) it will have to be inputted as sqr(1-(cos(theta)2)).

HW 35A & 35B: No new hints are needed.

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