LET’S TALK ABOUT WRITING UP NOTEBOOK HOMEWORK!
Here is what the outside of your NOTEBOOK looks like.

What should the inside of your NOTEBOOK look like?

Here is an example of a page from a previous semester's notebook (in this case a Calc 01 notebook) with a very clear write-up.

In this example, please note the following:

- At the beginning of the problem set, the student listed the section number, the page number, the problem list, and the total number of problems assigned.

- And she crossed-out the problems (along the top line) that she completed. [The "cross-outs" or "strike-throughs" at the beginning of each problem in the actual write-up are my marks, made as I was subsequently checking the problems.]

- She labeled each problem very clearly.

- She wrote-out the entire problem, and she wrote it in pen — so that it stands-out.

- Then she wrote her solution in pencil — just in case corrections needed to be made.

- She drew neat graphs (using a straight-edge) where necessary.

- And she boxed her answers!

NOTES:

- If you’ve already done some problems, and you have not done them this way.... No problem! You DO NOT have to re-do them; just start doing them now along these lines.
• There is considerable room for individualism and self-expression in your particular style of homework production.

HERE IS THE REASON I’M HAVING YOU DO ALL THIS:

• Unless you have perfect recall, you will probably quickly forget 25% and ultimately forget 50% or more of what you learn in this class — even if you are an excellent student.

• Yet the material we cover is extremely worth retaining. Every math teacher who has ever lived has said it, I’m sure.... “Math is progressive; it builds upon itself.” In a history class, where if you forget that Jefferson was the 3rd President and believe that he was the 10th President – as my logic class did last semester – it really won’t hurt you in the long run (unless you miss the question on Jeopardy), but in this class if you forget the quadratic formula (or even worse, forget how to derive it by completing the square), then you are really going to struggle in Calc II, Calc III, Differential Equations, etc., etc., etc.

• Thus, it follows that if you spend the time to produce a notebook with "write-ups" such as this shown above, you will have a document that can be used for years to come for review of the material and for stimulating your brain.

• Also, I recommend the following — After you have written out the problem, try (you may not succeed, but try) to write out the solution in your notebook in the neat format just as it appears in the example above; that is, try to make your first draft your final draft.
  o Don’t work it on scrap paper and then copy it into your notebook unless you absolutely have to. That is essentially a waste of time! Just do it in your notebook, and do it in “final form” the first time — if possible.
  o On the other hand, after you have written down the problem, don’t just jump in and start doing it.... The first thing that you need to do is to get a picture in your “mind’s eye” of what the solution will look like. Will it be a set (as in “solution set”), will it be an equation, will it be an interval on the x-axis, etc. In other words — What is being required of you?
  o Then look at the problem for a few seconds, and decide for yourself whether you can “just do it,” or whether you are going to need to really do some “scratching around” to figure out how to do it. In this latter case, go ahead and work the problem on scrap paper....
  o But my main point here is this — after you have figured it out don’t just mindlessly re-copy it into your notebook. NO NO NO. Rework the problem into your notebook without looking at your “scratchwork.” And think about what you are doing at each step and why it is “legal” to do it as you DO IT. Also, think about how each step is contributing to the goal of solving the problem. Get it? — We are going for understanding here!

• Another point is this: If there are problems that you just can’t do (and there certainly will be such problems), get help. You need to be doing all the problems I assign. But just what is help?
  o Help is a hint, a suggestion, an idea, an approach to the solution. It is NOT having someone work the problem for you in the guise of “showing you how to do it.”
  o Help can come from me, from a tutor in the Math Center, from another student – there are many sources.
  o But the final work-product must be your own. You should not move on to the next problem until you are comfortable in the belief that you, yourself, could explain this problem or any problem similar to it to your “little sister or brother.”

• Bottom Line – This is your work and I want you to be proud of it!