

MATH 347 HW 4

due September 28, at the beginning of class

HOMEWORK GUIDLINES

Obviously, your solutions need to be complete and correct, but to receive full credit your write-up should also satisfy the following:

- All the important logical steps in the proof should be present and fully explained.
- All assumptions should be clearly identified.
- Your solutions should be clear and concise. If a sentence does not further the reader's understanding of the solution then it has no place in your write up.
- Use full and grammatically correct English sentences. Mathematical symbols should be used only to render complex mathematical relationships into a readable form.

Moreover, in order to obtain full credit for the homework, you must write down, in the very least, an attempt at a solution for each problem.

PROBLEMS

Do the following problems from your book: 3.15, 3.16, 3.17, 3.43, 3.56, 3.58. Additionally, do the following:

- (1) Recall that the Fibonacci sequence is recursively defined as $F_1 = F_2 = 1$ and for $n \geq 3$, we define $F_n := F_{n-1} + F_{n-2}$. Show that F_{3n} is always even. What can you say about F_{4n} ?