MATH 3320 HOMEWORK ASSIGNMENT #1
DUE IN CLASS FRIDAY SEPTEMBER 5

You should do the problems with solutions from the book first and check your answers to be sure you understand the methods.

**Book problems:**

page 32, 1, 3, 6, 12, 13

**Other problems:**

A: Find $gcd(1084, 413)$ and express $\frac{1084}{413}$ as a continued fraction.

B: Show that $427x + 259y = 13$ has no integer solutions.

C: Find all integer solutions of $13853x + 6951y = gcd(13853, 6951)$.

D*: Use mathematical induction to prove the formula

$$F_n = \frac{1}{\sqrt{5}} \left[ \left( \frac{1 + \sqrt{5}}{2} \right)^n - \left( \frac{1 - \sqrt{5}}{2} \right)^n \right].$$

where $F_n$ are the Fibonacci numbers, $F_0 = 0$, $F_1 = 1$, and $F_n = F_{n-1} + F_{n-2}$. 