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 \( F_n = F_{n-1} + F_{n-2} \).