You may turn in your work on this handout if you find that easier, but it should still be neat and clear – that is, you still should not turn in your rough draft.

1. We know that the first 10 Fibonacci numbers are $\{1, 1, 2, 3, 5, 8, 13, 21, 34, 55\}$. Remember that we use the notation F_n to represent the nth Fibonacci number – that is, $F_1 = 1$, $F_2 = 1$, $F_3 = 2$, etc. Also remember that we find the nth Fibonacci number by adding together the two that come before it. Find the numerical value of the following:

   (a) F_{11}

   (b) $F_{11} + 2$

   (c) F_{11+2}

2. Given that $F_{36} = 14,930,352$ and $F_{37} = 24,157,817$, find:

   (a) F_{38}

   (b) F_{35}

3. Let a represent the 1000th Fibonacci number and b represent the 1001st Fibonacci number. Express the 1003rd Fibonacci number in terms of a and b. (In other words, you're doing this without ever knowing what the 1000th and 1001st Fibonacci numbers are.) Simplify your answer.