Classwork

Spring 2012

April 19, 2012

- 1. (a) Find a recurrence relation for the number of ways to climb n stairs if the person climbing the stairs can take one, two or three stairs at a time.
 - (b) What are the initial conditions?
 - (c) In how many ways can this person climb a flight of 6 stairs?

2. Solve the following recurrence relation. $a_n = a_{n-1} + 6a_{n-2} \text{ for } n \geq 2, \, a_0 = 3 \ , \, a_1 = 6$

3. (a) Find all solutions of the recurrence relation $a_n = 2a_{n-1} + 2n^2$

(b) Find the solution of the recurrence relation in part a) with initial condition $a_1 = 4$