Quiz X

1. (0 points but you have to answer) What is your name? Write it clearly.

2. Let $a_n$ be defined as follows

   \[ a_1 = 1 \]
   \[ (\forall n \geq 2)[a_n = a_{n-1} + (2n - 1)] \]

   (a) (30 points) Calculate $a_1, a_2, a_3$.
   (b) (30 points) Based on those first three values make a conjecture as to what $a_n$ is.
   (c) (40 points) Prove your conjecture by induction on $n$. 