

1 CIS 2910 Lab 5 - Strong Induction

1.1 Prove the following theorem by strong induction

Let there be a sequence $g_0, g_1, g_2 \dots$, which we define as:

$$g_0 = 12$$

$$g_1 = 29$$

$$g_n = 5g_{n-1} - 6g_{n-2} \text{ for all integers } k \geq 2$$

Prove by strong induction that:

$$g_n = 5(3^n) + 7(2^n)$$