



3. Find *general* solutions of the following recurrences. (Note: this means you don't have to solve for constants!)

(a)  $a_n = 5a_{n-1} - 6a_{n-2}$

(b)  $b_n = 2b_{n-1} + 3 \cdot (-2)^n$

(c)  $c_n = 4c_{n-1} - 4c_{n-2} + 3^n$

(d)  $d_n = 4d_{n-1} - 4d_{n-2} + 2^n$

(e)  $d_n = 4d_{n-1} - 4d_{n-2} + 3n^3 - n^2 + 1$

(f)  $d_n = 4d_{n-1} - 4d_{n-2} + n^2 2^n$