6.4.

$a_{n+2} = 2a_{n+1} - a_n + 5^{2n}, \quad a_0 = a_1 = 0$

$a_{n+2} - 2a_{n+1} + a_n - 5^{2n} = 0$

$\langle a_n \rangle (E^2 - 2E + 1)(E - 5^2) = 0$

~~$\langle a_n \rangle (\alpha n^2 + \beta n + \gamma)(n +$~~

$(E-1)^2 (E - 5^2)$ anihilator

$\alpha n + \beta + 25^n \gamma = 0$

$a_2 = 2 \cdot 0 - 0 + 5^0 = 1, \quad a_0 = 0, a_1 = 0$

$$\begin{cases} 0 = \beta + \gamma \\ 0 = \alpha + \beta + 25\gamma \\ 1 = 2\alpha + \beta + 25^2\gamma \end{cases}$$

$(E - a)\langle i a^{2i} \rangle = \langle (i+1) a^{2i+2} - a\, i a^{i4}$

$= \langle i a^{2i+2} + a^{2i+2} - i a^{i+1} \rangle$

$= \langle a^{i+1} (i a$