

Solve the following finite difference equations. (Turn in all four.)

1. $x_n = 2x_{n-1} - x_{n-2}, x_0 = 1, x_1 = 2$

2. $x_n = 6x_{n-1} - 9x_{n-2}, x_0 = 7, x_1 = 21$

3. $x_n = 4x_{n-1} - 5x_{n-2}, x_0 = 1, x_1 = 0$

4. $x_n = 6x_{n-1} - 10x_{n-2}, x_0 = 0, x_1 = 2$