Name Prof. M

Mathematics 2602

Quiz 8

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1. Solve the recurrence relation given by $a_0 = 5$, $a_1 = 11$, and

$$a_n = -2a_{n-1} - a_{n-2} \qquad n \geq 2.$$

Solve $r^2 + 2r + 1 = 0$

$(r+1)^2 = 0$

$\rightsquigarrow$ $a_n = c(-1)^n + dn(-1)^n$

Solve for c, d:

$5 = a_0 = c$

$11 = a_1 = -c - d$

$c = 5, \; d = -16$

$\rightsquigarrow$ $a_n = 5(-1)^n - 16n(-1)^n$