Math 321

Watch the Movie!

lost the 1st part.

(ex) $a_n = 2a_{n-1} + a_{n-2} - 2a_{n-3}$

$a_0 = 3 \quad a_1 = 6 \quad a_2 = 0$

$r^3 - 2r^2 + r + 2 = 0$

$r^2(r-2) - 1(r-2) = 0$

$(r^2-1)(r-2) = 0$

$(r+1)(r-1)(r-2) = 0$

$r = \pm 1 \quad r = 2$

Solu

$a_n = a(1)^n + b(-1)^n + c(2)^n$

$a_n = a + b(-1)^n + c(2)^n$

$a_0 = 3 \quad 3 = a + b + c$

$a_1 = 6 \quad 6 = a - b + 2c$

$a_2 = 0 \quad 0 = a + b + 4c$

$9 = 2a + 3c$

$6 = 2a + 6c$

sub.

$3 = -3c$

$\boxed{c = -1} \rightarrow \boxed{a = 6} \rightarrow \boxed{b = -2}$

$a_n = 6 - 2(-1)^n - 2^n$