3.5 $a_n = (0, 0, 1\cdot 2^1, 0, 0, 2\cdot 2^2, 0, 0, 3\cdot 2^3, \dots)$

$a_n = \sum_{i=0}^{\infty} (i+1)\, 2^{i+1}\, x^{3i}$

$a_n = (0, 0, 2, 0, 0, 4, 0, 0, 8, \dots)$

$a_n = \sum_{i=0}^{\infty} 2^{i+1} x^{3i} = \frac{2}{1-2x^3}$

$c_n = (0, 1, 2, 3, \dots) = \sum_{n=0}^{\infty} n x^n = \frac{1}{(1-x)^2}$

$c_n = (0, 1\cdot 2, 2\cdot 2^2, 3\cdot 2^3, \dots) = \sum_{n=0}^{\infty} n\cdot 2^n x^n = \frac{1}{(1-2x)^2}$

$c_n = (0, 0, 1\cdot 2, 0, 0, 2\cdot 2^2, \dots) = \sum_{n=0}^{\infty} n 2^n x^{3n}$

$c_n = \frac{1}{(1-2x^3)^2}$

$a_n = (0, 0, 1\cdot 2, 0, 0, 2\cdot 2^2, 0 \dots) = \frac{1}{(1-2x^3)^2} \cdot \frac{1}{x}$