

$$0 = b = 0 \quad 42 \quad 5 + 40 - 12402 = 2140$$

3.4. $a_n = (1, 0, 0, \pi, 0, 0, \pi^2, 0, 0, \pi^3, \dots) = \sum_{i=0}^{\infty} \pi^i x^{3i}$

$$AG) = \frac{1}{1 - \pi x^3}$$

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

~~$$a_n = \sum_{i=2}^{\infty} (i-2) 2^{i-2} x^i$$~~

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

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

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

~~$$a_n = 2 \sum_{i=0}^{\infty} 2^i x^{3i+2}$$~~

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

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

~~$$c_n = (0, 1 \cdot 2, 2 \cdot 2^2, 3 \cdot 2^3, \dots)$$~~

~~$$c_n = \sum_{n=0}^{\infty} n 2^n x^n$$~~

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

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

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