2.2

a) Zaczniemy od ciągu $\langle 1, 1, 1, 1, \ldots \rangle$ i $A(x) = \frac{1}{1-x} = \sum_{i=0}^{\infty} x^i$.

$$A(x) = \sum_{i=0}^{\infty} x^i = \frac{1}{1-x}$$

$$A'(x) = \sum_{i=0}^{\infty} x^{i-1} \cdot i = \frac{1}{(1-x)^2} \quad / \cdot x$$

$$xA'(x) = \sum_{i=0}^{\infty} x^i \, i = \frac{x}{(1-x)^2}$$

$$xA''(x) = \sum_{i=0}^{\infty} x^{i-1} \, i^2 = \frac{x+1}{(1-x)^3} \quad / \cdot x$$

$$x^2 A''(x) = \sum_{i=0}^{\infty} x^i \, i^2 = \frac{x(x+1)}{(1-x)^3}$$

$$\| \quad a_n = n^2$$