Zad. 2. 316055

Rozwinięcie $\cos x$ w szereg Taylora:

$$\cos(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \dots$$

$$\cos(3x) - 1 + \frac{9x^2}{2} = 1 - \frac{3^2x^2}{2!} + \frac{3^4x^4}{4!} - \dots$$

$$-1 + \frac{9x^2}{2}$$

$$= \frac{3^4x^4}{4!} - \frac{3^6x^6}{6!} + \frac{3^8x^8}{8!} \dots$$

$$\frac{\left(\cos(3x) - 1 + \frac{9x^2}{2}\right)}{x^4} = \frac{3^4}{4!} - \frac{3^6x^2}{6!} + \frac{3^8x^4}{8!} - \frac{3^{10}x^6}{10!} + \dots =$$

$$= \sum_{i=0}^{n} (-1)^i \frac{3^{4+2i} \cdot x^{2i}}{(4+2i)!}$$