## ZAD. 1

 $\label{eq:wykazac} \mbox{Wykazac, ze wielomiany Czebyszewa} \ \mbox{T}_k \ \mbox{spelniaja rownosci}$ 

$$\int_{-1}^{1} (1-x^2)^{-\frac{1}{2}} T_k(x) T_1(x) dx = 0$$

$$\int_{-1}^{1} (1 - x^{2})^{-\frac{1}{2}} [T_{k}(x)]^{2} dc = \begin{cases} \pi & k = 0 \\ \frac{\pi}{2} \end{cases}$$