1. Find the interval of convergence of the power series

\[ \sum_{n=0}^{\infty} \frac{n^2}{2^n} x^n \]

2. Find the first three terms \( (n = 0, 1, 2) \) of the Taylor series for \( f(x) = \cos(x) \) centered at \( a = \frac{\pi}{4} \).