MAT 137 (Calculus II) Prof. Swift

The Taylor series for $f(x)$, centered at a, is $f(x) = \sum_{n=0}^{\infty} c_n(x-a)^n$, where $c_n = \dfrac{f^{(n)}(a)}{n!}$.

1. Use the formula for c_n to find the Taylor series for the function $f(x) = x^4 + 3x^2 - 2x + 1$, centered at 0.

2. What is the radius of convergence of the Taylor series you found in question 1?

3. Use the formula for c_n to find the Taylor series for the same function, centered at 1.