Name: **ID #:**   **Serial #:**

1. Find the radius of convergence and interval of convergence of $\displaystyle\sum_{n=0}^{\infty} \frac{(x+2)^n}{n^2+1}$

2. Write $\displaystyle\int \frac{x}{1+x^3}\,dx$ as a power series. What is the radius of convergence?