HW 1.10: Power Series

For what values of $x$ does each series converge? Give the (a) interval (b) center (c) radius

1. $\sum_{n=1}^{\infty} (-1)^n \frac{n^2 x^n}{2^n}$

2. $\sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)!}$

3. $\sum_{n=1}^{\infty} \frac{n}{4^n} (x+1)^n$