

Find the interval of convergence for the following power series:

1. $\sum_{j=0}^{\infty} \frac{x^j}{j!}$

2. $\sum_{k=1}^{\infty} \frac{(x-1)^k}{k2^k}$

3. $\sum_{n=0}^{\infty} (n+1)(x-3)^n$