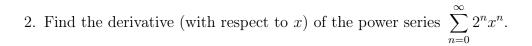
- 1. Consider the power series  $f(x) = \sum_{k=0}^{\infty} \frac{1}{(2k)!} \cdot x^{2k}$ :
  - (a) What are the coefficients of 1, x,  $x^2$ , and  $x^3$ ?

(b) On what interval does the power series converge?

(c) Calculate f(0).



3. Find the radius and interval of convergence of the power series 
$$\sum_{n=0}^{\infty} \frac{e^n}{n^2+2} x^n$$
.

4. Find the radius (but <u>not</u> the interval) of convergence for the power series  $\sum_{n=0}^{\infty} \frac{n^n}{n!} x^n$ . Hint: this is closely related to an example we discussed in lecture!