

## 1 Power Series Coefficients A

Use the formula for a Taylor series:

$$f(z) = \sum_{n=0}^{\infty} \frac{1}{n!} \frac{d^n f(a)}{dz^n} (z - a)^n$$

to find the series expansion for  $f(z) = e^{-kz}$  to second order around  $z = 3$ .