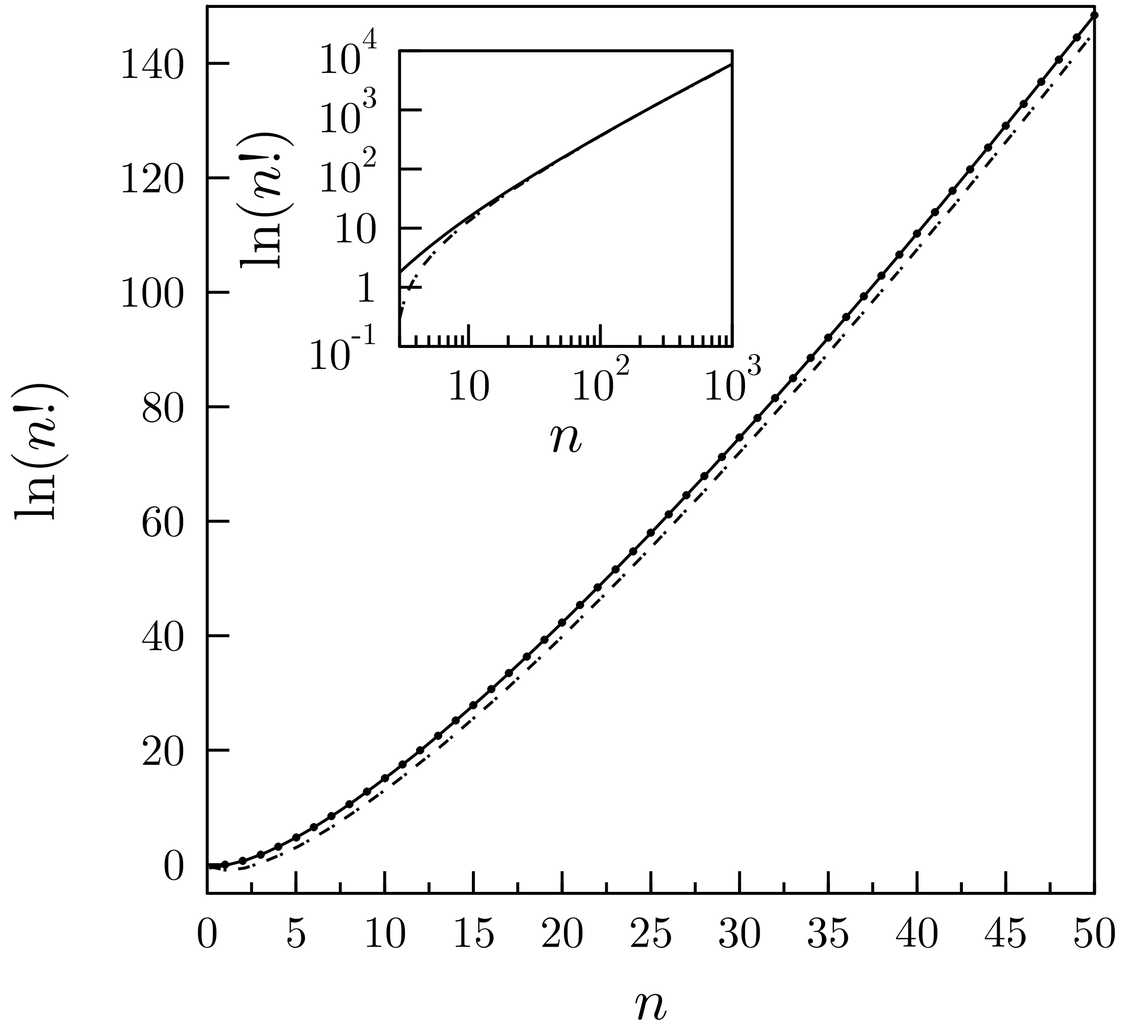
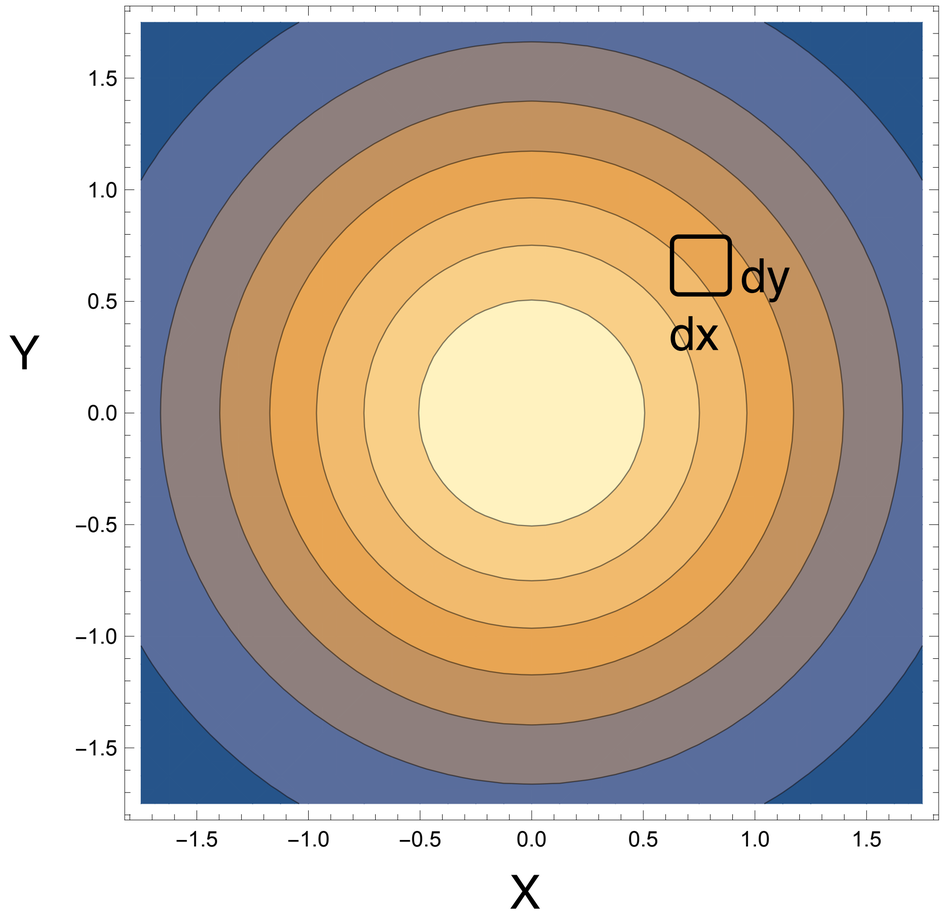
Accuracy of Stirling



- Points: $\log(n!)$
- Dashed: $n \log n - n$
- Solid: $\log(n^n e^{-n} \sqrt{2\pi n})$

We will used the dashed

2D Probability Distributions



The probability to be in bin $\mathbf{d}x\mathbf{d}y$ is:

$$\mathrm{d}\mathscr{P} = P(x,y)\mathrm{d}x\mathrm{d}y$$

Example:

$$\frac{\mathrm{d}\mathscr{P}}{\mathrm{d}x\mathrm{d}y} = P(x,y) = \frac{1}{2\pi\sigma^2}e^{-(x^2+y^2)/2\sigma^2}$$