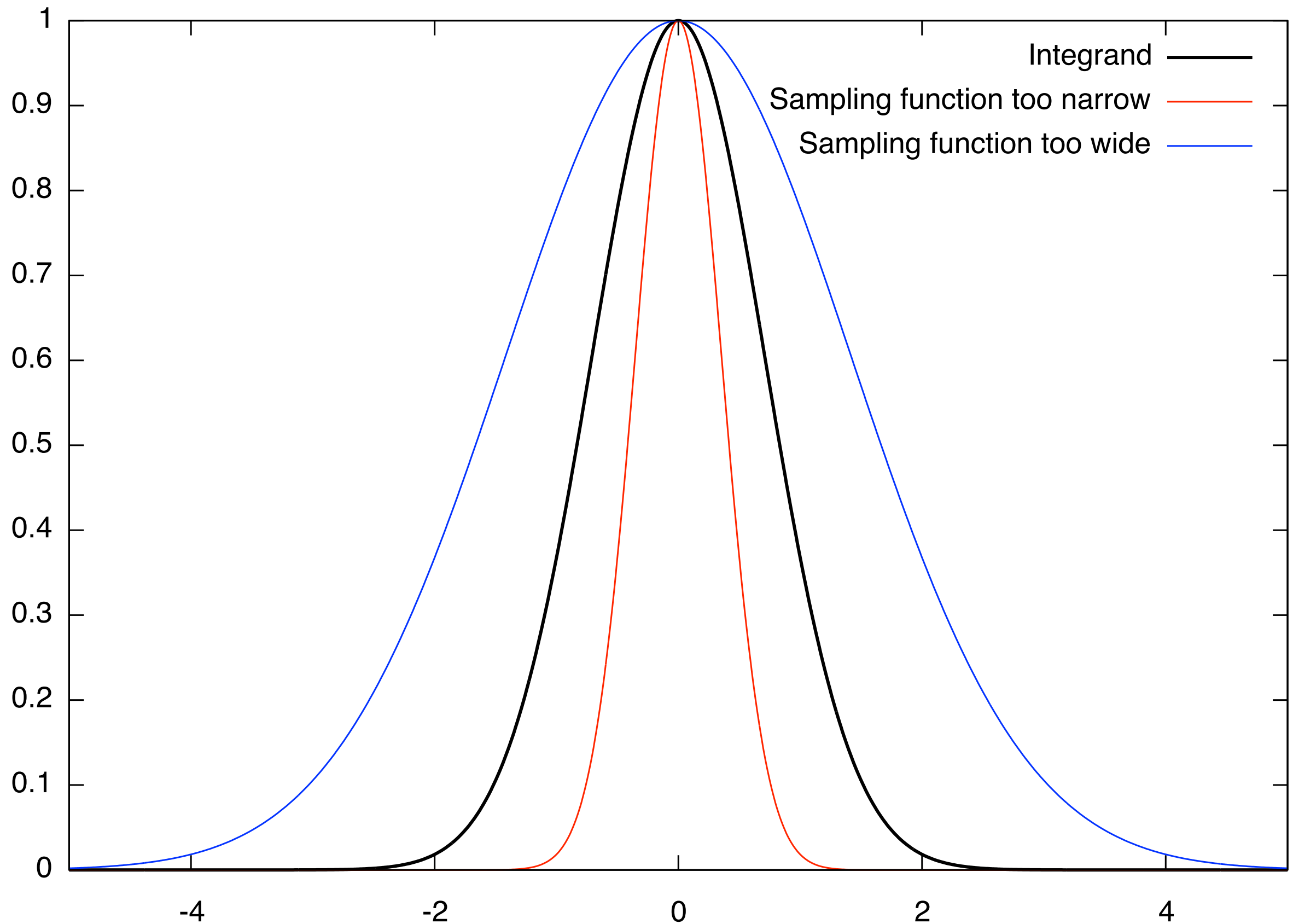


# Sampler should resemble integrand



# Monte Carlo Integration

$$\int dx f(x)g(x) = \left\langle \frac{1}{\rho(x)} f(x)g(x) \right\rangle_{\rho(x)}$$

This average will give us the integral,  
but how to do it efficiently?

Choosing  $\rho(x) = \frac{|f(x)|}{N_f}$   $N_f = \int dx |f(x)|$

$$\int dx |f(x)| e^{i\phi_f(x)} g(x) = N_f \left\langle e^{i\phi_f(x)} g(x) \right\rangle_{|f(x)|}$$