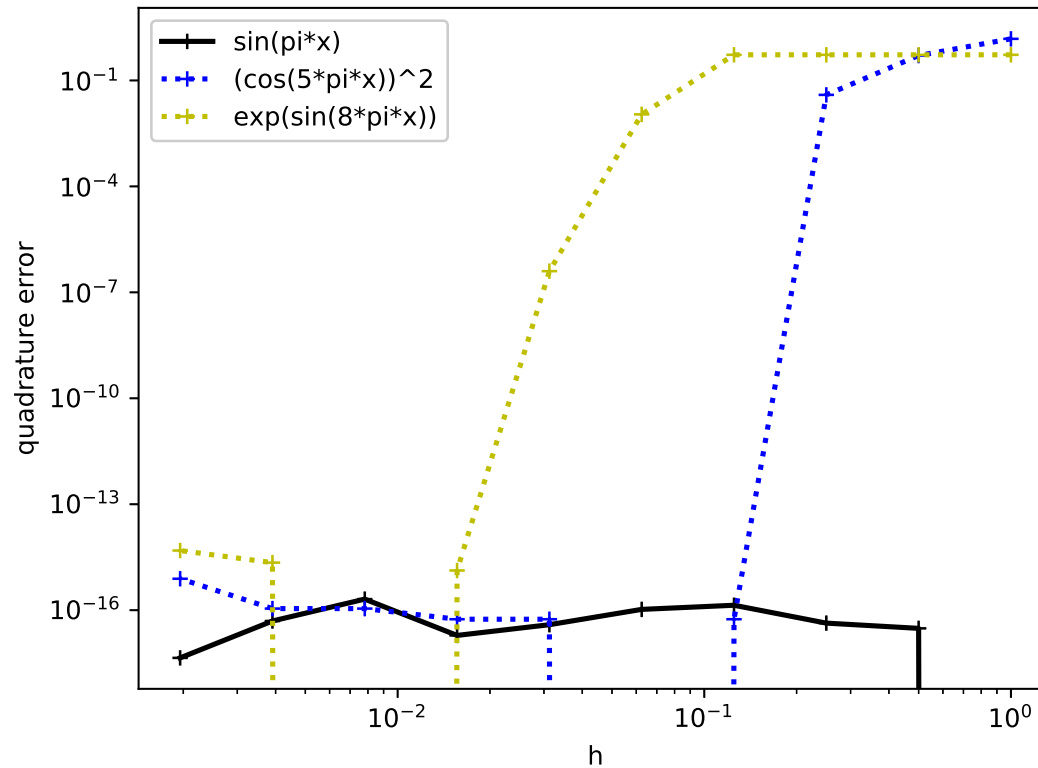


# trapezoidal rule for smooth, **periodic** integrands



evaluation of  $\int_{-1}^1 f_i(x) dx$  for

$$f_1(x) = \sin(\pi x), \quad f_2(x) = (\cos(\pi x))^{10}, \quad f_3(x) = \exp(\sin(8\pi x))$$

important: integration is over a period  $[-1, 1]$