Gaussian Quadrature

- Non Uniform spacing/positioning of points allowed

  xk

- Manipulation of weights *wk*
- Weights do not change if points change position,

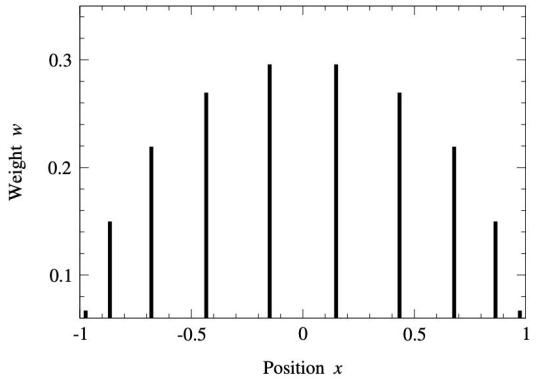
  only if range of integration changes

Position and weight mapping and final form of the integral

$$x'_k = \frac{1}{2}(b-a)x_k + \frac{1}{2}(b+a)\,,$$

$$w'_k = \frac{1}{2}(b-a)w_k\,,$$

$$\int_a^b f(x)\,\mathrm{d}x \simeq \sum_{k=1}^{n} w'_k f(x'_k).$$



Images from textbook