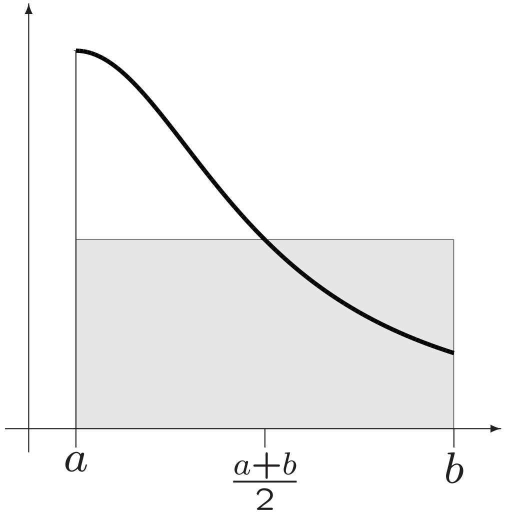
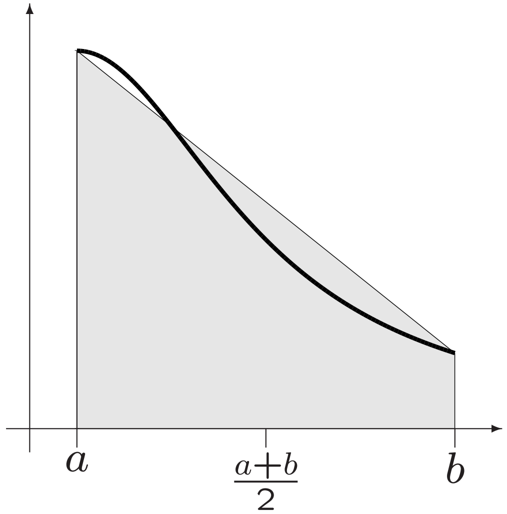
Quadraturformeln

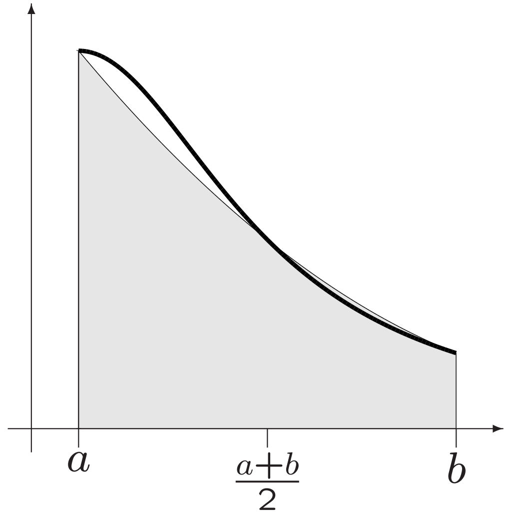
$$\int_a^b w(x)\,dx \approx Q(w) = \sum_{i=1}^{m} \alpha_i w(x_i)$$



Mittelpunktsregel



Trapezregel



Simpsonsche Regel

$$Q_{\mathsf{MR}} = (b-a)w(\tfrac{a+b}{2}) \qquad Q_{\mathsf{TR}} = \tfrac{b-a}{2}(w(a)+w(b)) \qquad Q_{\mathsf{SR}} = \tfrac{b-a}{6}\big(w(a)+4(\tfrac{a+b}{2})+w(b)\big)$$