

$$\int_a^b f(x) dx = \left[\begin{array}{l} y = 2 - \frac{4(x-b)}{a-b}, \quad x = -\frac{1}{4}(y-2)(a-b) + b \\ dy = \frac{4}{b-a} dx, \quad dx = \frac{b-a}{4} dy \end{array} \right]$$

$$= \frac{b-a}{4} \int_{-2}^2 f\left(-\frac{1}{4}(y-2)(a-b) + b\right) dy$$