12.11

$$x \in [a,b] \to \frac{x-a}{b-a} \in [0,1] \to 4\frac{x-a}{b-a} - 2 \in [-2,2]$$

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

$$= \frac{b-a}{4}\int_{-2}^{2} f\left(\frac{t+2}{4}(b-a)+a\right)dt$$