

597 Nr. 4

$$j) \int_{-4}^4 0,5 \cdot x^2 dx = \left[\frac{1}{2} \cdot \frac{x^3}{3} \right]_{-4}^4 = \frac{1}{6} \cdot 4^3 - \frac{1}{6} \cdot (-4)^3 = \frac{64}{6} + \frac{64}{6} = \underline{\underline{\frac{64}{3}}}$$

$$k) \int_{-1}^1 x^5 dx = \left[\frac{x^6}{6} \right]_{-1}^1 = \frac{1^6}{6} - \frac{(-1)^6}{6} = \frac{1}{6} - \frac{1}{6} = \underline{\underline{0}}$$

$$l) \int_{90}^{100} 1 dx = \left[x \right]_{90}^{100} = 100 - 90 = \underline{\underline{10}}$$

597 Nr. 5

$$\int_{-2}^{-1} (-2x) dx = \left[-2 \frac{x^2}{2} \right]_{-2}^{-1} = \left[-x^2 \right]_{-2}^{-1} = -(-1)^2 - \{ -(-2)^2 \} =$$
$$= -1 - \{ -4 \} = -1 + 4 = \underline{\underline{3}}$$

(II) ist richtig

597 Nr. 6

$$a) \int_0^4 -x dx = \left[-\frac{x^2}{2} \right]_0^4 = -\frac{4^2}{2} - \left[-\frac{0^2}{2} \right] = \underline{\underline{-8}}$$

$$b) \int_{-1}^0 -2x dx = \left[-2 \frac{x^2}{2} \right]_{-1}^0 = \left[-x^2 \right]_{-1}^0 = -0^2 - \{ -(-1)^2 \} = -0 + 1 = \underline{\underline{1}}$$

$$c) \int_{-2}^2 -x^2 dx = \left[-\frac{x^3}{3} \right]_{-2}^2 = -\frac{2^3}{3} - \left\{ -\frac{(-2)^3}{3} \right\} = -\frac{8}{3} - \left\{ +\frac{8}{3} \right\} = -\frac{8}{3} - \frac{8}{3} = \underline{\underline{-\frac{16}{3}}}$$

$$d) \int_{-4}^{-2} -\frac{1}{2} \cdot x dx = \left[-\frac{1}{2} \cdot \frac{x^2}{2} \right]_{-4}^{-2} = -\frac{1}{4} \cdot (-2)^2 - \left\{ -\frac{1}{4} \cdot (-4)^2 \right\} = -1 - \{ -4 \}$$
$$= -1 + 4 = \underline{\underline{3}}$$