S 93 Nr. 1

b) $\int_{-1}^{1}(2x+1)\,dx = A_1 + A_2 + A_3 = \underline{2}$

$-A_1 = A_2 \qquad A_3 = 2 \cdot 1$

---

c) $\int_{-1}^{2}(-2)\,dt = 1 - 4 = \underline{-3}$

---

d) $\int_{0}^{4} -2\,dx = \underline{-8}$

---

e) $\int_{-5}^{0}(-t-5)\,dt = -5 \cdot 5 \cdot \frac{1}{2} = \underline{-12{,}5}$

S 93 Nr. 2

a) $\int_{-2}^{0} f(x)\,dx = -0{,}3 + 0{,}8 = 0{,}5$; b) $\int_{-1}^{2} f(x)\,dx = \cancel{-0{,}3} + 0{,}8 + 2{,}9 = 3{,}7$

c) $\int_{0}^{3} f(x)\,dx = 2{,}9 - 1{,}1 = 1{,}8$; d) $\int_{-2}^{3} f(x)\,dx = -0{,}3 + 0{,}8 + 2{,}9 - 1{,}1 = 2{,}3$

S 93 Nr. 3

a) $\int_{0}^{2} x^2\,dx \approx \underline{2{,}667}$; b) $\int_{0}^{2}(x^2-1)\,dx \approx \underline{0{,}667}$; c) $\int_{-1}^{1} x^3\,dx = \underline{0}$

d) $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \cos(x)\,dx \approx 2$; e) $\int_{0}^{1}(e^x - 2)\,dx \approx -0{,}281$

S 93 Nr. 4

Fig. 4 $\int_{1}^{4}\left(\frac{1}{x}\right)dx \approx \underline{1{,}386\ FE}$;

Fig. 5 $x_{N_1} \qquad x_{N_2}$

$\int_{x_{N_1}}^{x_{N_2}}\left(-\frac{1}{2}x^2 + 2{,}5\right)dx = \int_{-\sqrt{5}}^{\sqrt{5}}\left(-\frac{1}{2}x^2 + 2{,}5\right)dx \approx \underline{7{,}454\ FE}$

$x_{N_{1,2}} = \pm\sqrt{2{,}5 \cdot 2} = \pm\sqrt{5}$

Fig. 6 $\int_{-4}^{-1}\left(\frac{1}{x^2} - 1\right)dx \approx \underline{-2{,}25\ FE}$