

S. 203/2

$$a) \int (2x-4)^3 dx = \frac{1}{2} \cdot \frac{1}{4} (2x-4)^4 + c = \underline{\underline{\frac{1}{8} (2x-4)^4 + c}}$$

$$b) \int (-x+2)^{-2} dx = \underline{\underline{\frac{1}{-x+2} + c}}$$

$$c) \int (1+2x)^4 dx = \underline{\underline{\frac{1}{10} (1+2x)^5 + c}}$$

S. 203/4

$$a) \int \sqrt{-x+3} dx = -\frac{2}{3} \sqrt{(-x+3)^3} + c = F(x)$$

$$F(2|\frac{1}{3}) \rightarrow -\frac{2}{3} \sqrt{(-2+3)^3} + c = \frac{1}{3} \wedge \underline{\underline{c=1}}$$

$$b) \underline{\underline{c=-4}}$$

$$c) \underline{\underline{c=0}}$$

S. 200/3

$$a) F(x) = \frac{1}{4}x^4 - 2x^3 + \frac{1}{2}x^2 + c$$

$$b) F(x) = \frac{1}{50}x^5 - \frac{1}{3}\sqrt{2}x^3 + c$$

$$c) F(x) = -\frac{1}{5}x^4 + \frac{1}{2}18^3x^2 + c$$

$$d) F(x) = \frac{2}{3}\pi x^3 - \frac{1}{5}x^5 + c$$

$$e) F(x) = -2x^4 - \frac{2}{3}x^3 + c$$

$$f) F(x) = -250x^4 + \frac{1}{2\sqrt{5}}x^2 + c$$

S. 220/3

$$a) x_1=0; x_2=6; A = \left| \int_0^6 f(x) dx \right| = 18 \text{ FE}$$

$$d) x_1=0; x_2=5; A = \left| \int_0^5 f(x) dx \right| = 10 \frac{5}{12} \text{ FE}$$

S. 220/4

$$a) \left| \int_0^1 x^3 - 1 dx \right| = \int_0^1 x^3 - 1 dx$$
$$= \left[\frac{1}{4}x^4 - x \right]_0^1$$
$$\underline{\underline{a = \frac{3}{4} \approx 1,59}}$$

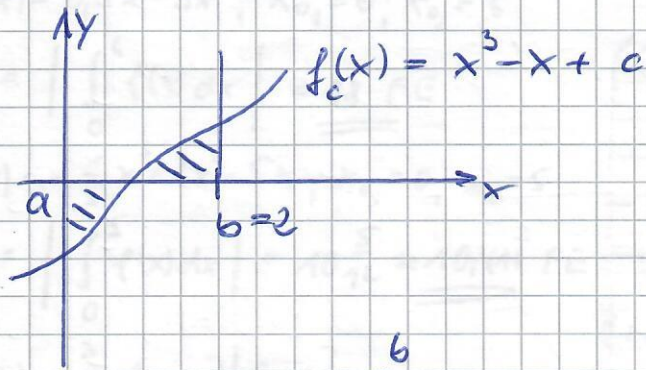
mit Nst. bei $x_0=1$

$\frac{3}{4}$

$$b) \left| \int_0^a x^3 - x - 2 dx \right| = \int_0^a x^3 - x - 2 dx$$
$$2,95 = \left[\frac{1}{4}x^4 - \frac{1}{2}x^2 - 2x \right]_0^a$$
$$\underline{\underline{a \approx 2,557}}$$

mit Nst. bei $x_0 \approx 1,7$

S. 220/5a



$$\text{Es gilt: } A = \int_a^b f_c(x) dx = 0$$

$$\int_0^2 x^3 - x + c dx = 0$$

$$\left[\frac{1}{4}x^4 - \frac{1}{2}x^2 + cx \right]_0^2 = 0$$

$$(4 - 2 + 2c) - 0 = 0$$

$$2 + 2c = 0$$

$$\underline{c = -1}$$