

Integral Aufgabe 33

$$f(x) = x(3 - x^2) = 3x - x^3$$

nur ungerade Exponenten somit punktsymmetrisch

Nullstellen:

$$x(3 - x^2) = 0$$

$$x_1 = 0$$

$$3 - x^2 = 0 \quad | +x^2$$

$$x^2 = 3 \quad | \sqrt{}$$

$$x_{2,3} = \pm \sqrt{3}$$

$$A = 2 * \int_0^{\sqrt{3}} (3x - x^3) dx = 2 * \left| \frac{3x^2}{2} - \frac{x^4}{4} \right|_0^{\sqrt{3}} = 2 * |2,25|$$

$$\mathbf{A = 4,5}$$

