Simon Freiermuth

Vecka 17, Lektion 2

a)

$$f(x) = x^3 + ax^2 + x + b$$

$$f'(x) = 2 * x^2 + ax + 1$$

$$f(0) = -2$$

$$f'(1) = 0$$

$$0 = 2 * 1^2 + a * 1 + 1$$

$$-4 = a * 2$$

$$\frac{-4}{2} = a$$

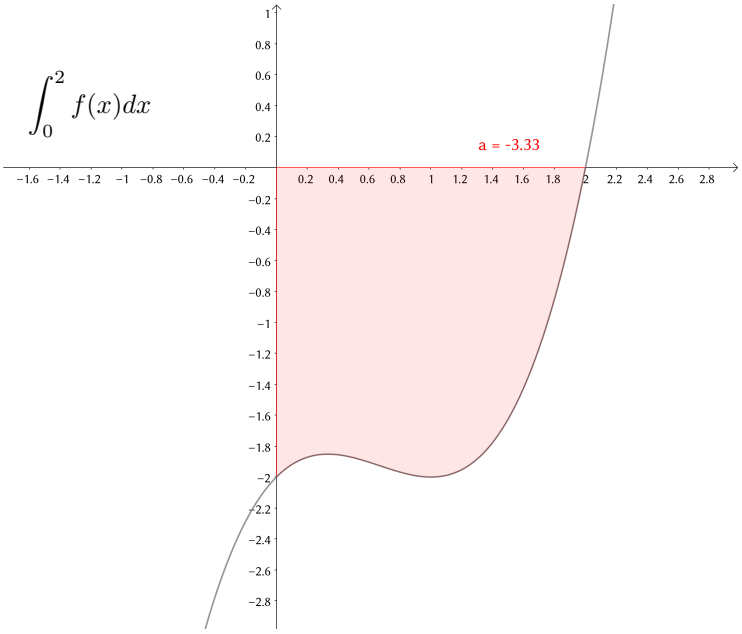
$$a = -2$$

$$-2 = 0^3 + (-2) * 0^2 + 0 + b$$

$$b = -2$$

b)

$$\int_0^2 f(x)dx$$



c)

$$V = \pi * \int_{x_1}^{x_2} (f(x))^2 dx$$

$$V = \pi * \int_0^2 (f(x))^2 dx$$

$$V = 18.9094\ u^3$$