Opgave 409

$$f(x) = \sqrt{x}$$

$$f'(x) = \frac{1}{2}x^{-\frac{1}{2}}$$

$$x_1 = 1$$
$$x_2 = 5$$

$$L = \int_{x_1}^{x_2} \sqrt{1 + f'(x)^2}\, dx$$

$$L = \int_{1}^{5} \sqrt{1 + \left(\frac{1}{2}x^{-\frac{1}{2}}\right)^2}\, dx$$
$$L = 4{,}195354$$