

	Navn:		Skole:	
	Klasse: 20		Dato: 23. november 2022	Fag: Matematik A

### **Opgave 409**

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

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

$$x_1 = 1$$

$$x_2 = 5$$

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

$$L = \int_1^5 \sqrt{1 + \left(\frac{1}{2}x^{-\frac{1}{2}}\right)^2} \, dx$$

$$L = 4,195354$$