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	Klasse: 20		Dato: 31. august 2022	Fag: Matematik A

Opgave 358

Opgave A)

$$\int_1^3 \frac{1}{x^5} dx = \int_1^3 x^{-5} dx$$

$$\text{Define: } F(x) = \frac{1}{-4} x^{-4}$$

$$F(3) - F(1) \approx 0,2469136$$

Opgave B)

$$\int_0^2 \sqrt{x} dx = \int_0^2 x^{\frac{1}{2}} dx$$

$$\text{Define: } F(x) = \frac{1}{\frac{1}{2} + 1} x^{\frac{1}{2} + 1}$$

$$F(2) - F(0) \approx 1,885618$$

Opgave C)

$$\int_0^3 2x^3 - 12x dx$$

$$\text{Define: } F(x) = \frac{2}{4} x^4 - \frac{12}{2} x^2$$

$$F(3) - F(0) = -13,5$$

Opgave D)

$$\int_2^3 \frac{1}{\sqrt{x}} dx = \int_2^3 \frac{1}{x^{\frac{1}{2}}} dx = \int_2^3 x^{-\frac{1}{2}} dx$$

$$\text{Define: } F(x) = \frac{1}{-\frac{1}{2} + 1} x^{-\frac{1}{2} + 1}$$

$$F(3) - F(2) \approx 0,6356745$$