

1. $\int_0^4 x e^x dx \simeq \sum_{i=1}^8 \Delta x f(x_i) =$

2. $\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{2}{n} \left(5 + \frac{2i}{n}\right)^3 = \int \quad dx.$

3. $\int_2^5 \frac{x}{3 + \sin x} dx = \lim_{n \rightarrow \infty} \sum$

4. $\frac{d}{dx} \left[\int_0^x \frac{\sin t}{\sqrt{t^2 + 1}} dt \right] =$

5. $\int_0^{1/2} \frac{dx}{\sqrt{1-x^2}} =$

6. $\int_0^\pi \sec^2 x dx =$

1. $\int_0^2 \frac{dx}{1+x} \simeq \sum_{i=1}^6 \Delta x f(x_i) =$

2. $\lim_{n \rightarrow \infty} \sum_{i=1}^n \frac{4}{n} \frac{1}{3 + \left(1 + \frac{4i}{n}\right)^2} = \int \quad dx.$

3. $\int_4^7 \frac{e^x}{1+x} dx = \lim_{n \rightarrow \infty} \sum$

4. $\frac{d}{dx} \left[\int_3^x \frac{e^{t^2}}{1+t^2} dt \right] =$

5. $\int_0^1 \frac{dx}{1+x^2} =$

6. $\int_{\pi/4}^{3\pi/4} \frac{dx}{\cos^2 x} =$