

Q1) Evaluate the Riemann sum for $f(x) = x^3 + 1$ on $[0, 2]$, taking the sample points to be right endpoints and $n = 10$.



Final Ans.

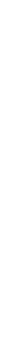
Q2) If f is a continuous function such that $f(x) = \int_2^{2x} \frac{t}{e^t} dt$. Evaluate $f(1) + f'(1)$



Final Ans.

Q3. Evaluate $\int_{1/2}^1 \frac{1}{x} dx + \int_0^{1/2} \frac{1}{\sqrt{1-x^2}} dx$

$$\begin{aligned} &= \ln|x| \Big|_{1/2}^1 + \sin^{-1} x \Big|_0^{1/2} \\ &= (\ln 1 - \ln \frac{1}{2}) + (\sin^{-1} \frac{1}{2} - \sin^{-1} 0) \\ &= \ln 2 + \frac{\pi}{6} \end{aligned}$$



Final Ans.