King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 161 Math 102 (11) Quiz#1 (5.1, 5.2 & 5.3)
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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 $\int_{1/2}^{1} \frac{1}{x}\,dx + \int_0^{1/2} \frac{1}{\sqrt{1-x^2}}\,dx$

$= \ln|x|\Big]_{1/2}^{1} + \sin^{-1} x\Big]_0^{1/2}$

$= (\ln 1 - \ln \frac{1}{2}) + (\sin^{-1} \frac{1}{2} - \sin^{-1} 0)$

$= \ln 2 + \frac{\pi}{6}$

Final Ans.