King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 163 Math 101 (01) Quiz#5 (3.10, 3.11, 4.1, 4.2 & 4.3)
Family Name: S.r#

Q1. Find the Relative extreme values of $f(x) = x - \frac{1}{6}x^2 - \frac{2}{3}\ln x$.

Q2. If $f(x) = \operatorname{sech}^2 x$, find $f'(a)$ if $\sinh a = 1$

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Q1. Find the Global extreme values of $f(x) = x\sqrt{8-x^2}$ on $[-1, 2\sqrt{2}]$.

Q2. The radius of a sphere was measured to be 2 cm with a relative error of ± 0.1. Use differentials to estimate the Maximum possible error in the calculated volume.