King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 162 Math 101 (8) Quiz#5 (3.10, 3.11, 4.1 & 4.3)
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Q1. The radius of a sphere was measured to be 10 cm with a possible percentage error of $\pm 0.5\%$. Use differentials to estimate the relative percentage error in the calculated surface area.

Q2. If $f(x) = 10 + x - 6x^2 + 3x^3 - \frac{x^4}{2}$, find the ***x*-coordinate of the local extremes** of $\frac{df}{dx}$

Local minimum(s) at

Local Maximum(s) at