Homework 9, Graded Problems

You will turn these in as two separate assignments. Work each part on separate paper.

Part I.

1. (10 pts.) Section 3.10; Problem 58. Use differential approximation to get your answers.
2. (10 pts.) Section 3.10; Problem 64. Use differential approximation to get your answer.

Part II. (Keep this separate from Part I.) Suppose that $f'(x) > 0$ on the interval $(-4, 0)$ and $f(-4) = 0$.

1. (5 pts.) Use the Mean Value Theorem to estimate $f(-2)$.
2. (5 pts.) Suppose that $f(-2) = c$. Use the MVT to estimate $f(0)$.
3. (5 pts.) Suppose that $f(0) = k$ and $f'(x) < 0$ on the interval $(0, 4)$. Use the MVT to estimate $f(4)$.
4. (5 pts.) Graph $f(x)$ as best you can on the interval $(-4, 4)$. Your $x$-axis must have tickmarks at $-4$, $-2$, and $4$. Your vertical axis must have tickmarks at $c$ and $k$. 