Quiz # 6 — 10/30/14

Answer all questions in a clear and concise manner. Remember that answers without explanation or that are poorly presented may not receive full credit.

1. Let $f(x) = -3x^4 + 16x^3 - 18x^2 + 60$.

- Find the absolute maximum and the absolute minimum values of $f(x)$ on the interval $[0, 4]$.

- Show that there is a value $x \in (0, 4)$ where $f'(x) = -8$.

2. A group of children found that the number of candy bars they eat per day after Halloween can be represented by $g(x) = \frac{3}{x}$ where x is the number of days after Halloween.

- Use the linear approximation of $g(x)$ on day 3 to estimate the number of candy bars eaten on day 4.