Math 141 - Homework 9   **Name:** _____

For each of the following functions, find all critical points in the domain.

1. $f(x) = x^3 - 12x$

2. $f(x) = x^2 - 4\sqrt{x}$.

3. $f(x) = \dfrac{4 + x^2}{x}$.

4. $f(x) = \cos x + \dfrac{x}{2}$.

5. Estimate the change in volume dV if the sides of a cube all increase from 10 to 10.1 centimeters.

6. Find the absolute maximum and minimum y-values for $f(x) = \dfrac{2x^3}{3} - 2x$ on the interval $[0, 3]$.