Physics 121H
Calculus Review

1. Differentiate the following functions with respect to x, check your answer by integrating your result. $a, b \ & c$ are constants.
   (a) $y = x^2 - 4x + 3$
   (b) $y = ax^4 - bx^3$
   (c) $y = 3x^2 + 4x - c$

2. Integrate the same functions in problem 1 with respect to x and check your answer by differentiating your result.

3. Find
   (a) $\int_{0}^{1} (6x^2 - 2) dx$
   (b) $\int_{1}^{2} (ax^3 - bx) dx$
   (c) $\int_{a}^{b} (cx^2 - x) dx$