

PRINT Your Name: _____ Recitation Time _____

There are 10 problems on 4 pages. Each problem is worth 10 points. In one problem you are instructed to use the definition of the derivative; you **MUST** use the definition of the derivative in that problem. In the other problems you may use any legitimate derivative rule. **SHOW** your work. **CIRCLE** your answer. **NO CALCULATORS!**

1. The volume of a cube is growing at the rate of 6 cubic inches per second. Find the rate of change of the cube's surface area at the instant when each side has length 10 inches.

2. (The penalty for each mistake is five points.) The picture represents the graph of $y = f(x)$.

