

Name (Last, First Middle): _____

Use of books, notes or calculators is **NOT** permitted. **Show all your work!** Answers without appropriate supporting work may not receive full credit. Clearly indicate your answers to each problem by underlining them or placing a box around your answers!

1. [25] Differentiate $f(x) = 2x^3 + 4x - \sqrt{x}$

2. [25] Find the second derivative of $g(x) = x \sin x$

3. [25] Differentiate

$$h(x) = \frac{x^3 + e^x}{x - 1}$$

4. [25] Find the derivative of $F(x) = \cos(x^3 - 1)$