

**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. [ 50] Find the antiderivative  $F$  of  $f(x) = 5x^4 - 2x^5$  that satisfies  $F(0) = 4$

2. [ 50] Find the function  $f(\theta)$ , if  $f''(\theta) = \sin \theta + \cos \theta$ ,  $f(0) = 3$  and  $f'(0) = 4$ .