

**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  $\int x \cos \pi x dx$ .

2. [ 50] Calculate  $\int_1^e \sqrt{t} \ln t dt$