

Name: \_\_\_\_\_

- You have one hour to complete this mock exam.

1. Compute  $\int (x+1)e^x dx$ .

2. Use integration by parts to evaluate  $\int \sec^3 x dx$ .

3. Compute  $\int \sec^3 x \tan^3 x \, dx$ .

4. Compute  $\int \sqrt{4 - x^2} \, dx$ .

5. Compute  $\int \frac{x}{x^2 - 5x + 6} dx$ .

6. Compute  $\int \frac{4x^2 + x + 5}{x^3 + 2x - 3} dx$ .

7. Compute  $\int \frac{dx}{\sqrt{x}(2 + \sqrt{x})^5}.$

8. Compute  $\int \frac{1 + \sin t}{1 - \sin t} dt.$