

# 232 TEST 3

*You may use your notebook during this exam.  
You may NOT use calculators, cell phones, or peeking.*

Math 232  
April 14, 2009

**Name:** \_\_\_\_\_  
By printing my name I pledge to uphold the honor code.

1. Compute  $\int_3^6 x^2 dx$  exactly using a limit of Riemann sums.  
*(According to FTC, your final answer should be 63.)*

2. Explain how the Mean Value Theorem is used in the proof of the Fundamental Theorem of Calculus.

3. Compute the following definite/indefinite integrals.

a)  $\int_0^{\pi} \sqrt{\cos x} \sin x \, dx$

b)  $\int \frac{x}{e^x} \, dx$

c)  $\int \tan^3 x \, dx$