Topics: Exam 3 covers the material we have discussed in class since the last exam (Oct 24 to the present). In particular, you need to be able to:

1. Find critical points, local max/min points, and inflection points of functions of one variable
   - from graph of $f(x)$ or $f'(x)$ (Exer 8)
   - algebraically (4.2 #15, 4.3 #19)
2. Estimate partial derivatives from table or contour diagram. Estimate locations and values of local/global max/mins from contour diagram or table. (Exer 7 and Exer 8.)
3. Compute 1st and 2nd order partial derivatives algebraically. (Exer 10). Find critical points and use 2nd deriv test to determine local max/min/neither. (9.5 #10)
4. Give values of antiderivatives of $f(x)$ from graph of $f(x)$ and an initial value. (Exer 9)
5. Evaluate indefinite integrals
   - ones that do not require substitution (Exer 9)
   - ones that do require substitution (Exer 9, 10)

   and definite integrals
   - ones that do not require substitution (7.3 #1-20)
   - ones that do require substitution (7.3 # 22-25)

Cheat Sheet: You may use a cheat sheet as long as you make it yourself.

- one side of a standard (8.5×11) sheet of paper
- with your name on it
- will be collected with your exam.

You might want to include formulas for derivatives and antiderivatives. I would recommend including the statement of the second derivative test for functions of two variables.