This review, produced by the Broward Teaching Center, contains a collection of questions which are representative of the type you may encounter on the exam. Other resources made available by the Teaching Center include:

- Walk-In tutoring at Broward Hall
- Private-Appointment, one-on-one tutoring at Broward Hall
- Walk-In tutoring in LIT 215
- Supplemental Instruction
- Video resources for Math and Science classes at UF
- Written exam reviews and copies of previous exams

The teaching center is located in the basement of Broward Hall:

You can learn more about the services offered by the teaching center by visiting https://teachingcenter.ufl.edu/
MAC 1105 Exam 4 Review

1. Convert the following logarithms into an exponential function to solve for \( x \):
   
   a. \( \log_2 x = 5 \)  
   b. \( \log_4 x = 2 \)  
   c. \( \log_8 x = 1 \)  
   d. \( \log_3 x = 4 \)  
   e. \( \log_1 x = 7 \)  
   f. \( \log_6 x = 0 \)

2. Solve the following equations:
   
   a) \( \ln (x - 1) = 2 \)  
   b) \( \ln (x - 9) + \ln x = 1 \)  
   c) \( \ln x + \ln (x + 9) = 1 \)  
   d) \( \log (x + 3) - \log x = 1 \)  
   e) \( \log (x + 4) - \log x = 2 \)  
   f) \( \log (3x^2 + 2x - 4) = 0 \)

3. Solve the following equations:
   
   a) \( \ln (x + 3) = \ln x + \log 3 \)  
   b) \( -\ln (x - 2) = 1 - \ln (x^2 - 4) \)  
   c) \( \log (x^2 - 1) = 1 + \log (x - 1) \)  
   d) \( \log_2 (2 - 2x) + \log_2 (1 - x) = 5 \)

4. Solve the following equations:
   
   a) \( e^x = 5 \)  
   b) \( 8^x = 4 \)  
   c) \( -6 + \ln 3x = 0 \)  
   d) \( 3^{x-2} = 81 \)  
   e) \( \log_2 2x = \log_2 100 \)  
   f) \( \ln(x + 4) = \ln 7 \)

5. Solve the following equations:
   
   a) \( 5^x = 25 \)  
   b) \( 2 \log_6 4x = 0 \)  
   c) \( 2^x = 64 \)  
   d) \( 4^{x-3} = \frac{1}{16} \)

6. Solve the following equations:
   
   a) \( \log_7 3 + \log_7 x = \log_7 32 \)  
   b) \( 4 \log_5 (x + 1) = 4 \)  
   c) \( \log_2 (x + 5) - \log_2 (x - 2) = 3 \)  
   d) \( 2 \ln 3x = 4 \)

7. Solve:
   
   a) \( 2 \log_4 x - \log_4 (x - 1) = 1 \)  
   b) \( \log x - \log 6 = 2 \log 4 \)  
   c) \( 3^x = 500 \)  
   d) \( 8^x = 1000 \)

8. Solve:
   
   a) \( \log_2 x + \log_2 (x - 3) = 2 \)  
   b) \( 5^{x+2} = 4 \)  
   c) \( \log_2 x + \log_2 3 = 3 \)  
   d) \( 4^{-3x} = 0.25 \)