

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS  
DEPARTMENT OF MATHEMATICAL SCIENCES  
MATH 260  
Exam # 1  
March, 8, 2006

NAME:

ID#:

**SHOW ALL YOUR WORK**

In problems 1-6 find a general solution for the given differential equation

1. (5points)  $y' = \sqrt{x + y + 1}$ .
2. (5points)  $xy' + 6y = 3xy^{4/3}$ .

3. (5points)  $(1 - 4xy^2) \frac{dy}{dx} = y^3$ .

4. (5points)  $yy' + x = \sqrt{x^2 + y^2}$ .

5. (5points)  $y' + y \cot x = \cos x$ .

6. (5points)  $yy'' = 3(y')^2$ .