



## ***In Class Exercises (ICE) - 11/17/00***

***A patient's reaction to a drug dose of  $x$  grams is given by a formula of the form:***

$$R(x) = x^2(1 - x)$$

***for  $0 \leq x \leq 1$ . Biochemists call  $R'(x)$  the sensitivity of the patient.***

- ***For what value of  $x$  is  $R$  a maximum?***
  
  
  
  
  
  
  
  
  
  
- ***How can you check that this value of  $x$  gives a maximum of  $R$ ?***
  
  
  
  
  
  
  
  
  
  
- ***What is the maximum value of  $R$  ?***
  
  
  
  
  
  
  
  
  
  
- ***For what value of  $x$  is the sensitivity a maximum?***
  
  
  
  
  
  
  
  
  
  
- ***How can you check that this value of  $x$  gives maximum sensitivity?***