

**Basic questions and suggested exercises for  
TEST # 1**

7.1 How do we find the inverse of a one to one function  $f$ ?

How do we find the derivative of  $f^{-1}$  at a specific point?

Ex:29,37,41

7.2 What is the derivative of  $\ln x$ ?

Is  $\ln x$  one to one?

Ex:15,17,60,62

7.3 Is the exponential function increasing? Why?

What is its derivative?

Ex: 5,10,24,33

7.4 When is  $a^x$  increasing? When is it decreasing?

When is  $\log_a x$  increasing? When is it decreasing?

What are the derivatives of these functions?

Ex: 12,25,29,40

7.5 What are the derivatives of the inverse trigonometric functions?

Ex: 25,27,33,63,64

7.7 What is the statement of L'Hopital's rule?

Ex: 15,31,57,65

8.1 State the formula for integration by parts

Ex: 7,19,25,31