

## I. Logarithm Function (p.691):

1. If  $f(x) = b^x$ , then  $f^{-1}(x) = \log_b x$
2.  $y = \log_b x \Leftrightarrow x = b^y$  (definition)

## II. Examples (p.700): Exercises #2-42(even)

## III. Common & Natural Logarithms

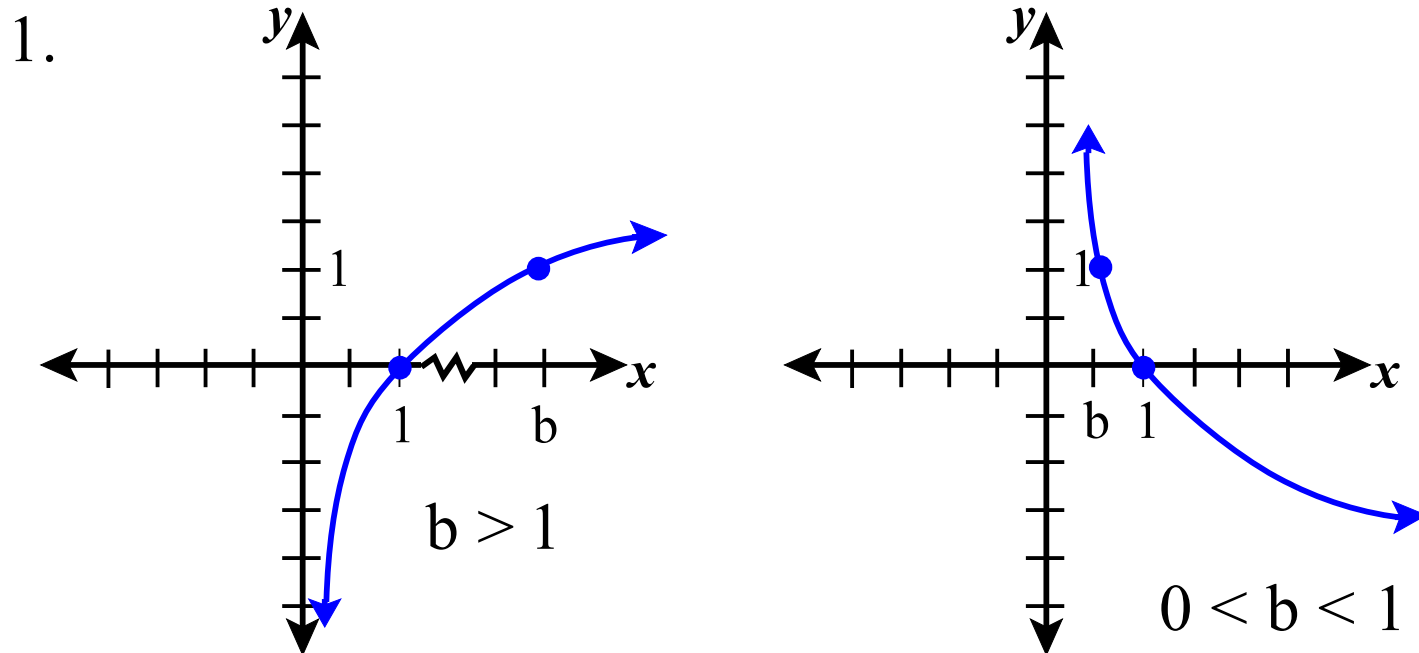
1. Base 10:  $\log x = \log_{10} x$
2. Base e:  $\ln x = \log_e x$
3. Examples (pp.700-701): Exercises #54-72(even)

HW: p.700 / Exercises #1-19(odd)

pp.700-701 / Exercises #21-45(odd), 53-71(odd)

Re-read pp.691-699 (section 9.3)

## IV. Graph Characteristics (p.695):



2.  $x$ -intercept @ (1,0) since  $f(1) = \log_b 1 = \underline{\hspace{2cm}}$
3.  $y$ -intercept: none
4. Vertical line,  $x = 0$  ( $y$ -axis) is an “asymptote”
5.  $b^y > 0$  for all values of “ $y$ ”
6. Domain =  $\{x \mid x > 0\}$  & Range =  $\{y \mid y \text{ is a real } \#\}$

## V. Examples (pp.700-701): Exercises #44,46,50,82

HW: pp.700-701 / Exercises#43-51(odd),73-85(odd)  
Read pp.704-711 (section 9.4)