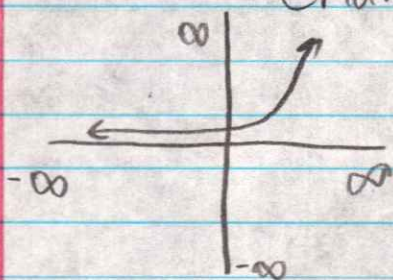
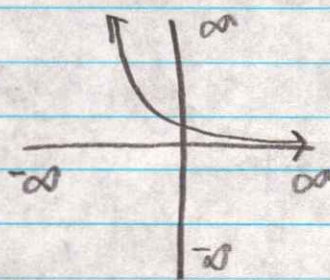


### Characteristics

Domain:  
(left, right)

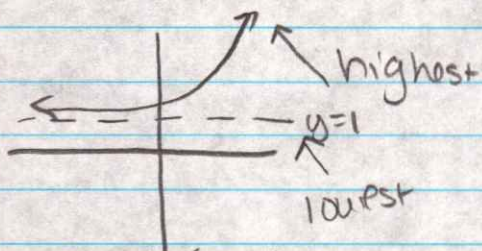


Domain:  $(-\infty, \infty)$   
Increase:  $(-\infty, \infty)$  \*no decrease

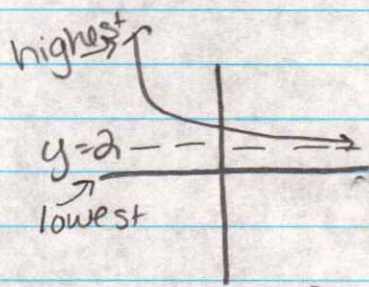


Domain:  $(-\infty, \infty)$   
Decrease:  $(-\infty, \infty)$  \*no increase

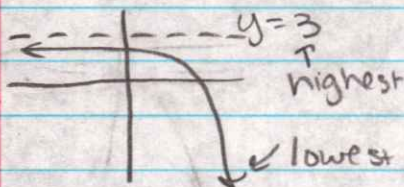
Range:  
(bottom, top)



Range:  $(1, \infty)$



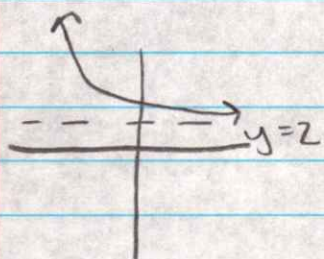
Range  $(2, \infty)$



Range  $(-\infty, 3)$

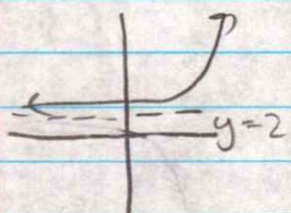
(asymptote,  $\infty$ ) or  $(-\infty, \text{asymptote})$

End behavior:



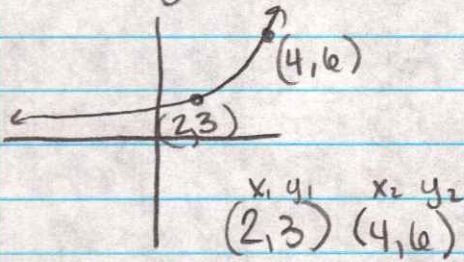
$x \rightarrow -\infty, y \rightarrow \infty$   
left      up  
 $x \rightarrow \infty, y \rightarrow 2$   
right      asymptote

\*one side is ALWAYS asymptote



$x \rightarrow -\infty, y \rightarrow 2$   
left      asymptote  
 $x \rightarrow \infty, y \rightarrow \infty$   
right      up

Average Rate of Change (AROC)  $\rightarrow$  Slope



Find AROC  $[2, 4]$   $\leftarrow$  x values

$$\frac{\Delta y}{\Delta x} \rightarrow \frac{y_2 - y_1}{x_2 - x_1}$$

$$\text{AROC} \rightarrow \frac{6 - 3}{4 - 2} \rightarrow \boxed{\frac{3}{2}}$$