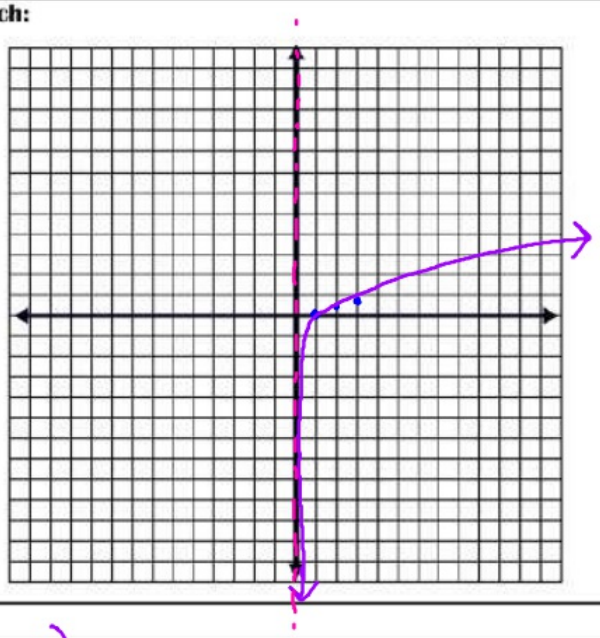
Logarithm
f(x) = logx

Table of Values
choose two positive, two negative and zero for values of x

x	y
-1	undef
0	undef
1	0
2	0.3
3	0.48

Sketch:



f(x)= logx	
Domain (interval)	$(0, +\infty)$
Range (interval)	$(-\infty, +\infty)$
Increasing (interval)	$(0, +\infty)$
Decreasing (interval	None
Intercepts	(1,0) x-int
Asymptotes	$X = 0$
End behavior	L: $X \to 0$ $y \to -\infty$ R: $X \to +\infty$ $y \to +\infty$
Positive	$(1, +\infty)$
Negative	$(0, 1)$
Max/Min	none
Symmetry	none

Additional info:

Exponential Decay

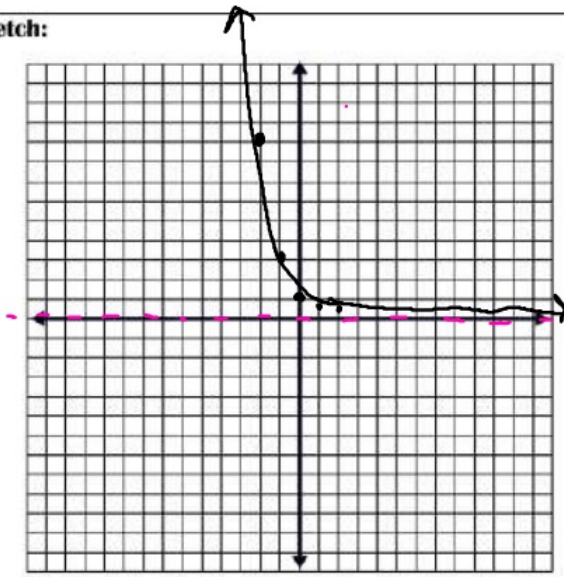
$f(x)=\left(\frac{1}{3}\right)^x$

Table of Values

choose two positive, two negative and zero for values of x

x	y
2	1/9
1	1/3
0	1
-1	3
-2	9

Sketch:



$\left(\frac{1}{3}\right)^2=\frac{1^2}{3^2}=\frac{1}{9}$

$\left(\frac{1}{3}\right)^1=\frac{1}{3}$

$\left(\frac{1}{3}\right)^{-1}=\frac{1^{-1}}{3^1}=\frac{3^1}{1^1}=3$

$\left(\frac{1}{3}\right)^{-2}=\frac{1^{-2}}{3^2}=\frac{3^2}{1^2}=9$

$f(x)=\left(\frac{1}{3}\right)^x$	
Domain (interval)	$(-\infty,+\infty)$
Range (interval)	$(0,+\infty)$
Increasing (interval)	None
Decreasing (interval	$(-\infty,+\infty)$
Intercepts	$(0,1)$ - y-int
Asymptotes	$y=0$
End behavior	L: $x\to-\infty$ $y\to+\infty$ R: $x\to+\infty$ $y\to0$
Positive	$(-\infty,+\infty)$
Negative	None
Max/Min	none
Symmetry	none

Additional info: