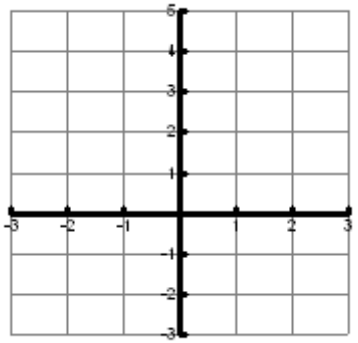
Math 103 - Introduction to section 9.2 – Exponential Functions

Problem 1:

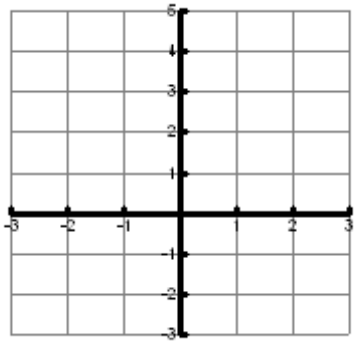
1) Construct a table of values and graph the functions $f(x) = 2^x$ and $f(x) = 3^x$

Use the x-values: -2, -1, 0, 1, 2

X	$y = f(x) = 2^x$
-2	
-1	
0	
1	
2	



X	$y = f(x) = 3^x$
-2	
-1	
0	
1	
2	



Domain	Domain
Range	Range
x-intercept	x-intercept
y-intercept	y-intercept
asymptote	Asymptote
Increasing or decreasing?	Increasing or decreasing?

2) What is the same, what is different?

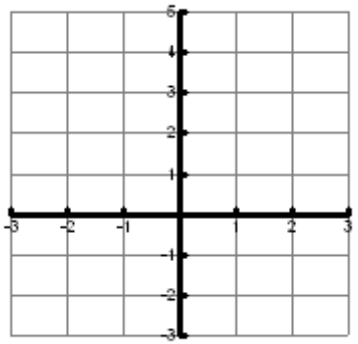
3) As x increases by 1, what pattern do you discover for y?

Problem 2:

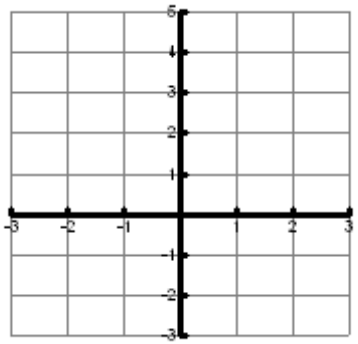
1) Construct a table of values and graph the functions $f(x) = 2^{-x}$ and $f(x) = (1/3)^x$

Use the x-values: -2, -1, 0, 1, 2

X	$y = f(x) = 2^{-x}$
-2	
-1	
0	
1	
2	



X	$y = f(x) = (1/3)^x$
-2	
-1	
0	
1	
2	



Domain	**Domain**
Range	**Range**
x-intercept	**x-intercept**
y-intercept	**y-intercept**
asymptote	**Asymptote**
Increasing or decreasing?	**Increasing or decreasing?**

2) What is the same, what is different?

3) As x increases by 1, what pattern do you discover for y?