Name: _____ Period: _____

Score: _____/_____ _____%

HW 4-1 HONORS: Graphing Exponential Functions

Instructions:

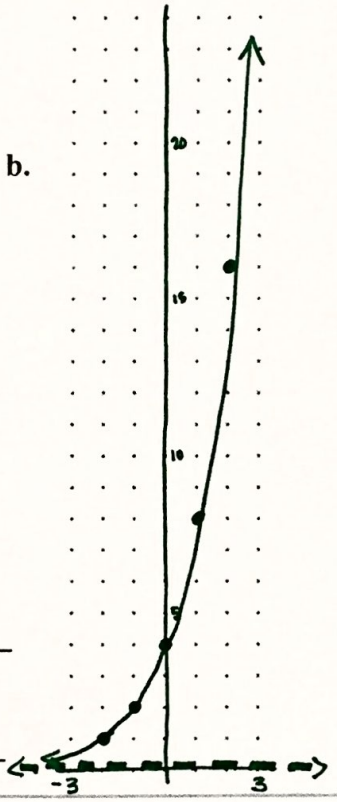
a) Fill in the table **showing your work** on a separate paper.
b) Graph each exponential function. You must graph the 5 points given in the table. Use **graph paper** to make your graphs. Make sure to label your axes.
c) In the blanks provided, state whether the function is **increasing** or **decreasing**, and if the function is **above** or **below** the asymptote.
d)

1) $y = 4(2)^x$

a.

x	y
-2	1
-1	2
0	4
1	8
2	16

b.



c. increasing _____ **and** above _____

2) $y = 27\left(\frac{1}{3}\right)^x$

a.

x	y
-2	
-1	
0	
1	
2	

b.

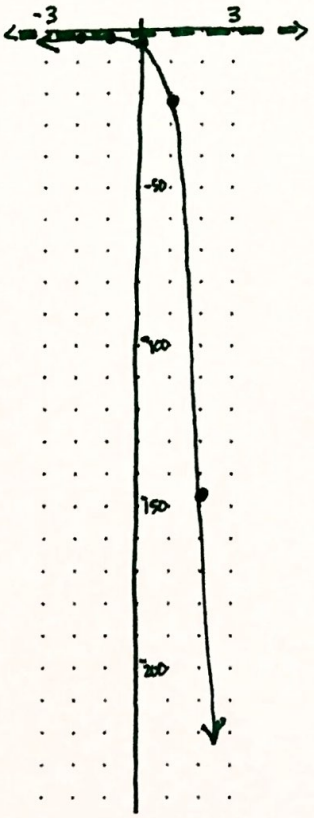
c. _____ **and** _____

3) $y = -3(7)^x$

a.

x	y
-2	$-\frac{3}{49}$
-1	$-\frac{3}{7}$
0	-3
1	-21
2	-147

b.



c. decreasing _____ **and** below _____

4) $y = -2\left(\frac{1}{2}\right)^x$

a.

x	y
-2	
-1	
0	
1	
2	

b.

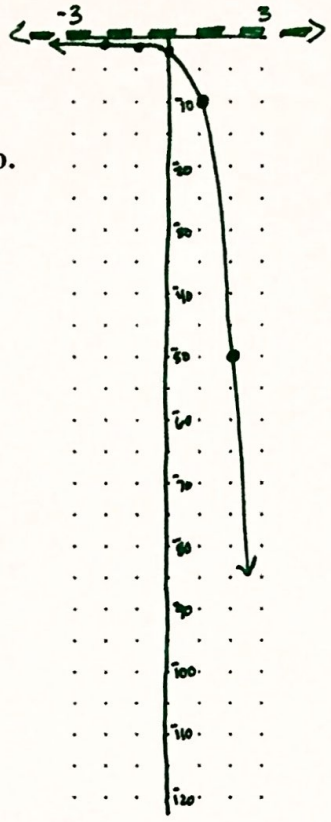
c. _____ **and** _____

5) $y = -2(5)^x$

a.

x	y
-2	$-\frac{2}{25}$
-1	$-\frac{2}{5}$
0	-2
1	-10
2	-50

b.



c. decreasing
and
below

6) $y = 100\left(\frac{1}{5}\right)^x$

a.

x	y
-2	
-1	
0	
1	
2	

b.

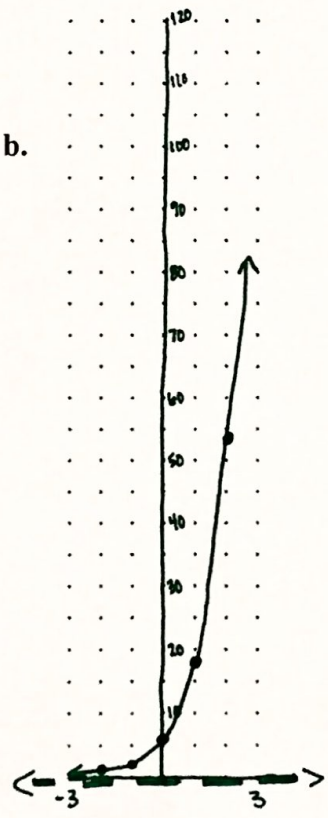
c. _____
and
_____

7) $y = 6(3)^x$

a.

x	y
-2	$\frac{2}{3}$
-1	2
0	6
1	18
2	54

b.



c. increasing
and
above

8) $y = \left(\frac{1}{2}\right)^x$

a.

x	y
-2	
-1	
0	
1	
2	

b.

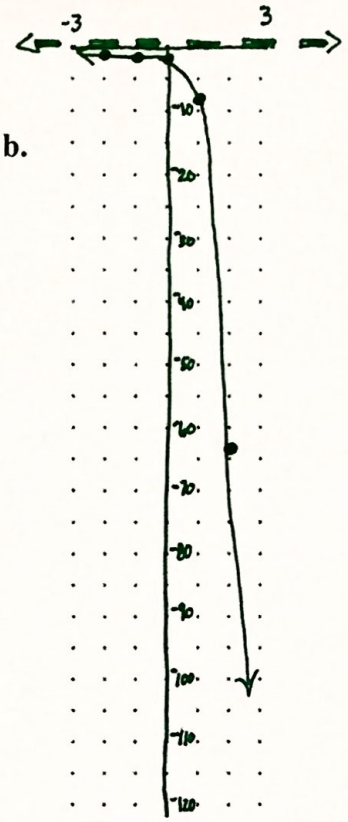
c. _____
and
_____

9) $y = -(8)^x$

a.

x	y
-2	$-\frac{1}{64}$
-1	$-\frac{1}{8}$
0	-1
1	-8
2	-64

b.



c. decreasing
and
below

10) $y = -64\left(\frac{1}{4}\right)^x$

a.

x	y
-2	
-1	
0	
1	
2	

b.

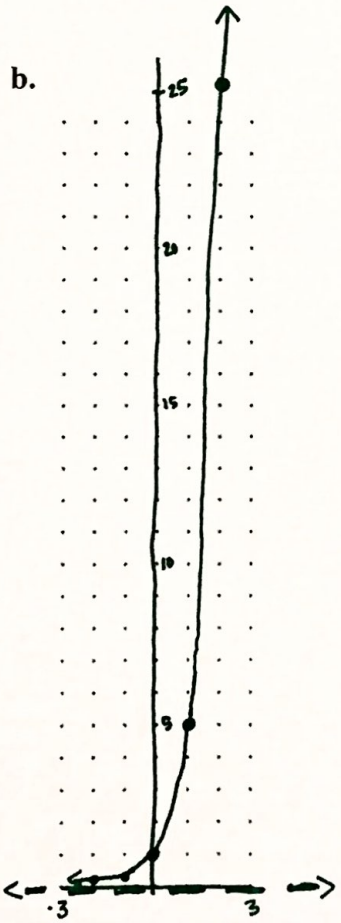
c. _____
and
_____

11) $y = 5^x$

a.

x	y
-2	$\frac{1}{25}$
-1	$\frac{1}{5}$
0	1
1	5
2	25

b.



c. increasing
and
above

12) $y = 3(2)^x$

Try graphing this equation WITHOUT making a table. Use the initial value and the common ratio.

c. _____
and
_____