ALGEBRA 1
UNIT: EXPONENTIAL FUNCTIONS
HOMEWORK

NAME
DATE
HOUR

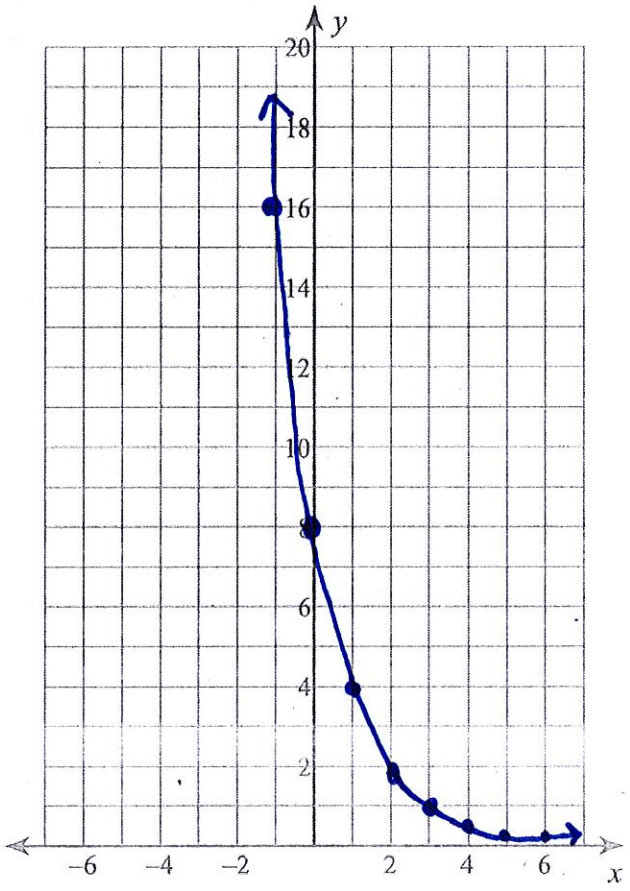
Graphing Exponential Functions Worksheet #2

Directions: Answer all questions. Show all work!!!

Sketch the graph of each function. Then, state the Domain, Range, and Y-intercept, and change of Y-values of the function.

1. $y = 8 \cdot (\frac{1}{2})^x$

X	Y
-1	16
0	8
1	4
2	2
3	1
4	1/2
5	1/4
6	1/8



Domain: $(-\infty, \infty)$

Range: $(0, \infty)$

Y-Intercept: (0 , 8)

Change in Y-Values: decreasing

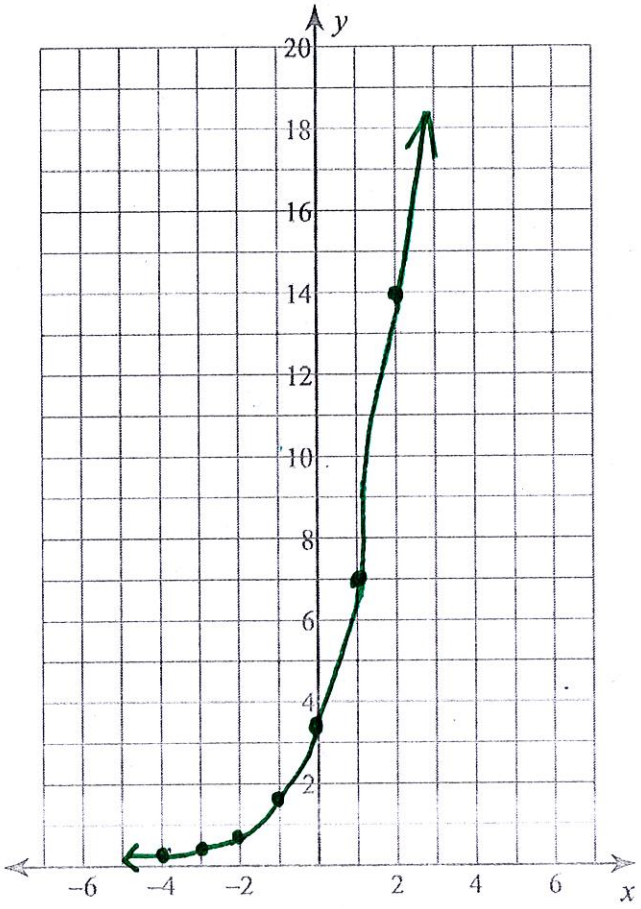
Growth or Decay? decay

Left
As $x \to -\infty, y \to \infty$

Right
As $x \to \infty, y \to 0$

2. $y = \frac{7}{2} \cdot 2^x$

X	Y
-4	$7/32$
-3	$7/16$
-2	$7/8$
-1	$7/4 = 1\frac{3}{4}$
0	$7/2 = 3\frac{1}{2}$
1	7
2	14
3	28
4	56



Domain: $(-\infty, \infty)$

Range: $(0, \infty)$

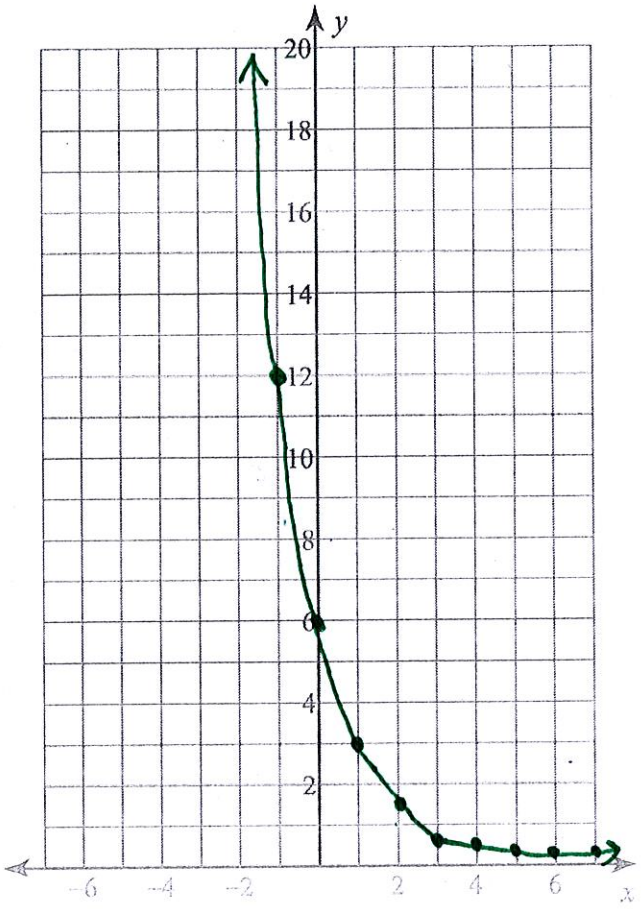
Y-Intercept: $(0, 3\frac{1}{2})$

Change in Y-Values: increasing (x2)

Growth or Decay? growth

3. $y = 6 \cdot (\frac{1}{2})^x$

X	Y
-2	24
-1	12
0	6
1	3
2	$3/2 = 1\frac{1}{2}$
3	$3/4$
4	$3/8$
5	$3/16$
6	$3/32$
7	$3/64$



Domain: $(-\infty, \infty)$

Range: $(0, \infty)$

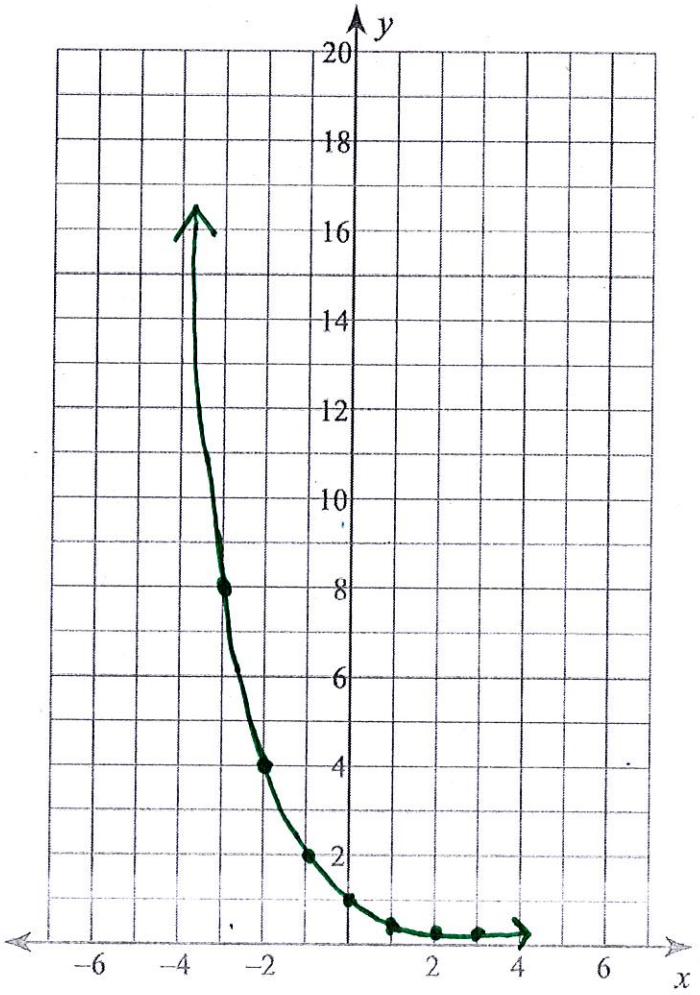
Y-Intercept: (0 , 6)

Change in Y-Values: decreasing ($\times \frac{1}{2}$)

Growth or Decay? decay

4. $y = 0.5^{x}$

X	Y
-3	8
-2	4
-1	2
0	1
1	1/2
2	1/4
3	1/8



Domain: $(-\infty, \infty)$

Range: $(0, \infty)$

Y-Intercept: (0 , 1)

Change in Y-Values (b): decreasing ($\times \frac{1}{2}$)

Growth or Decay? decay