

Name: _____

Date: _____

Writing Exponential Equations

$$y = ab^x$$

a = _____

b = _____

****** It's a function when you start at 0...a Y-intercept******

1. Bacteria can multiply at an alarming rate when each bacteria splits into two new cells, thus doubling.

Hour	0	1	2	3	4	5	6	7	8	9	10	...	24
Bacteria	2	4	8	16	32	64	128	256	512	1024	2048	...	33554432

- a. Write an **equation** that represents this situation.
- b. How many bacteria will there be in 15 hours?

2. Given the following table, write the **equation** that represents the information:

X	f(x)
-1	243
0	81
1	27
2	9

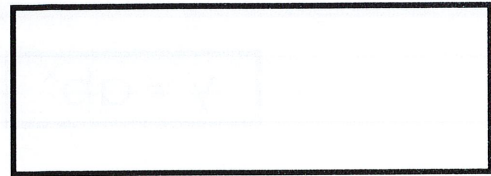
3. Each year the local country club sponsors a tennis tournament. Play starts with 128 participants. During each round, half of the players are eliminated.

Rounds	1	2	3	4
Number of Players left	64	32	16	8

- a. Write an **equation** for this scenario.
- b. When will there be 2 players left in the tournament?
4. A colony of insects triples every day. If the colony has 80 insects today, how many will be present in 10 days?

Graphing Exponential Functions

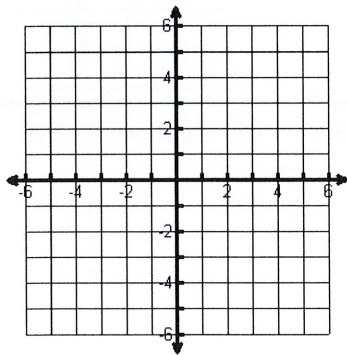
- Graph the special line called the _____
(Horizontal dashed line)
- Graph _____. (Use your table function in your calculator)



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

Asymptote: _____

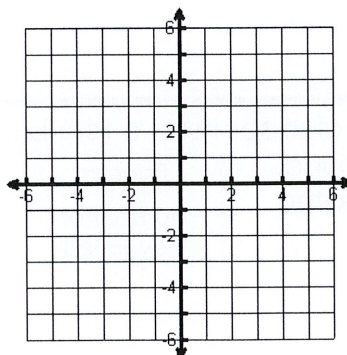
x	y



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

Asymptote: _____

x	y



3. $y = -(2)^x + 3$

Asymptote: _____

x	y

