Precalc Warm Up – 9/30/10

Name:_____ Period:_____

1) State the asymptote for the following functions:

a. $f(x) = 4^x + 5$

b. $f(x) = 2^x - 3$

c. $f(x) = 3(2^x) + 1$

d. $f(x) = 12^x$

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Precalc Exponential Verbal Models
CONCEPT BUILDER

Name:_____Date:_____Period:_____

Students will be able to turn a verbal model of an exponential function into an equation and graph.

Yesterday we discussed the generic equation of an exponential function

$f(x) = a(b^x)$

We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

Ms. Enrich puts 1 cell into a petri dish to grow more cells. Every hour, each cell doubles (which means that each cell divides and turns into 2 cells).

What is the initial value?

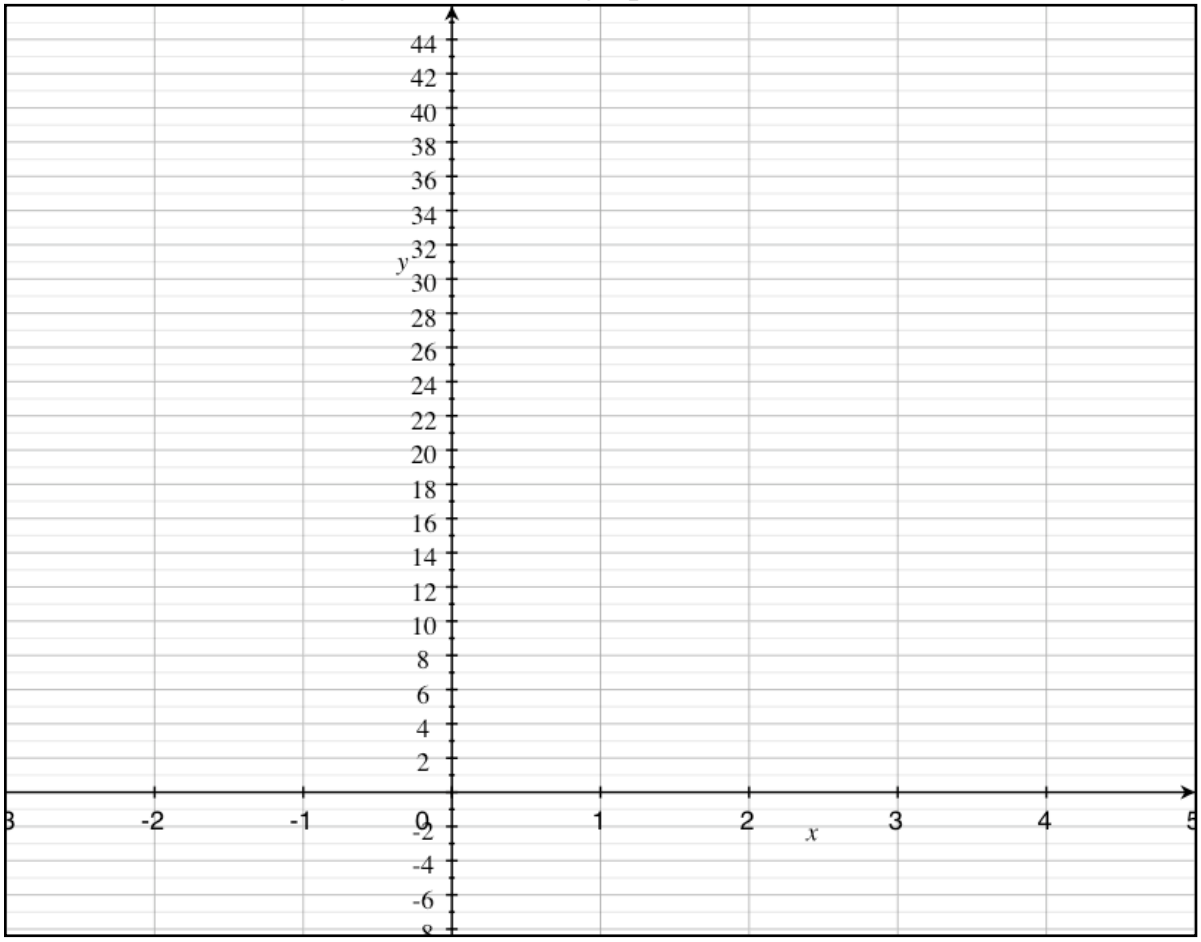
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, let's create a rough sketch of the graph:



We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

Ms. Enrich puts 4 cells into a petri dish to grow more cells. Every hour, each cell doubles (which means that each cell divides and turns into 2 cells).

What is the initial value?

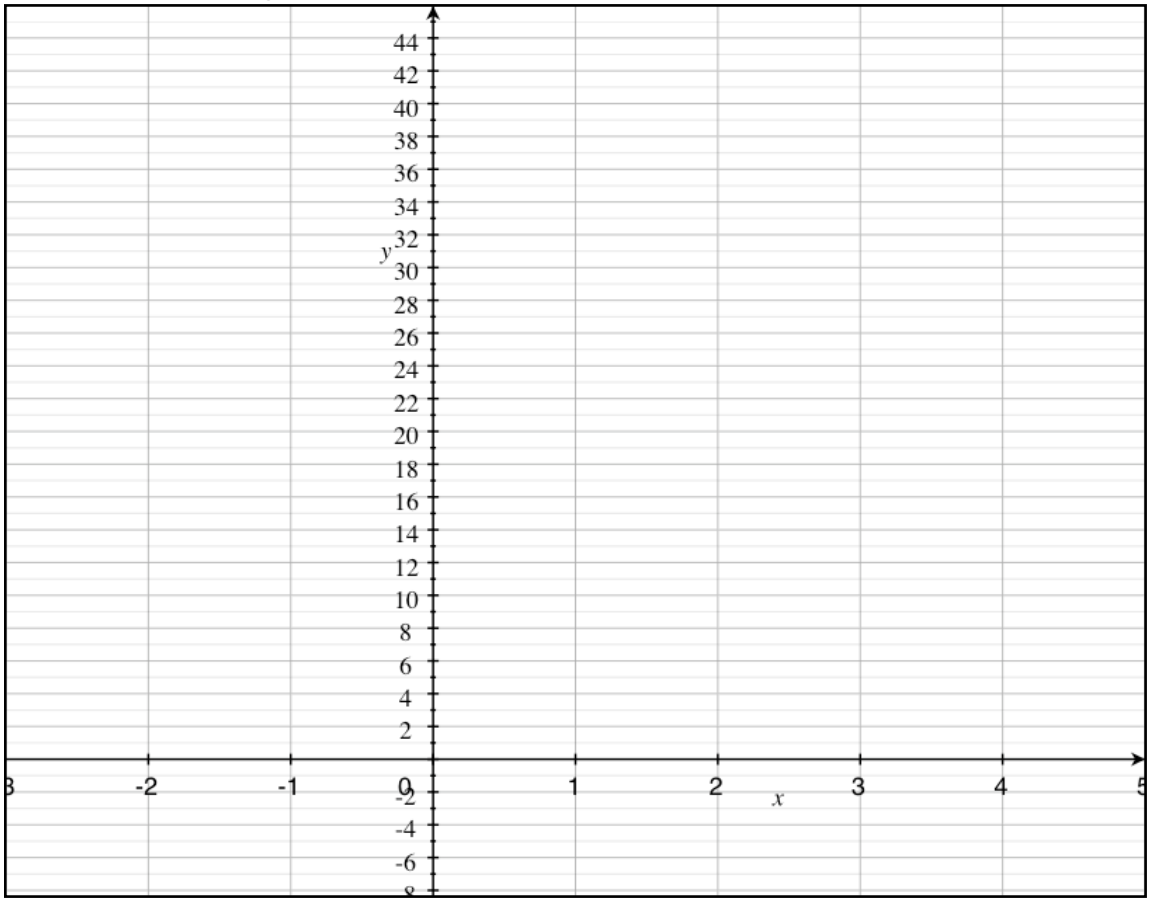
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



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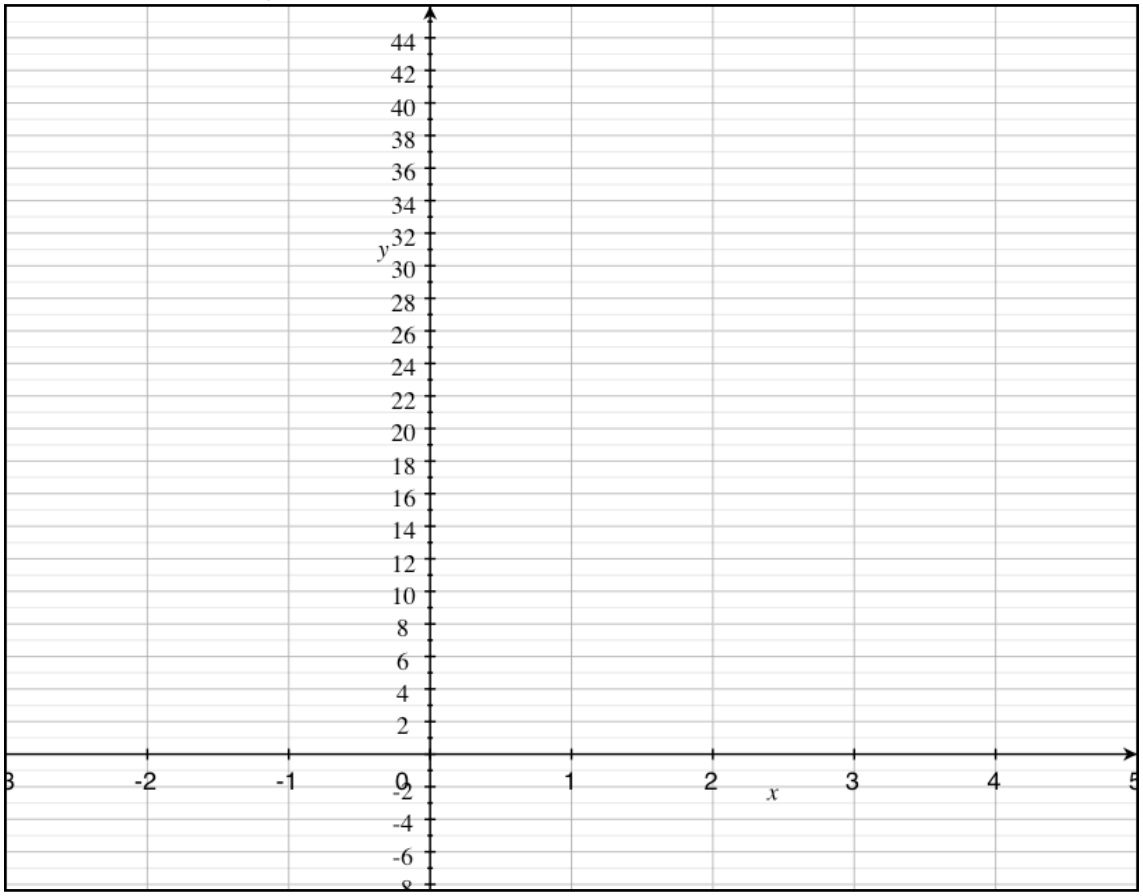
Ms. Enrich puts 4 cells into a petri dish to grow more cells. Every hour, each cell doubles (which means that each cell divides and turns into 2 cells).

Construct the equation for the verbal model:

Now, create a rough sketch.



We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

Radioactive substances decay over time, which means that if you leaving for a period of time you will have less of it than you started with. Imagine that you start with 100 grams of a radioactive substance and every day that you leave it sitting you will have half of what you started with

What is the initial value?

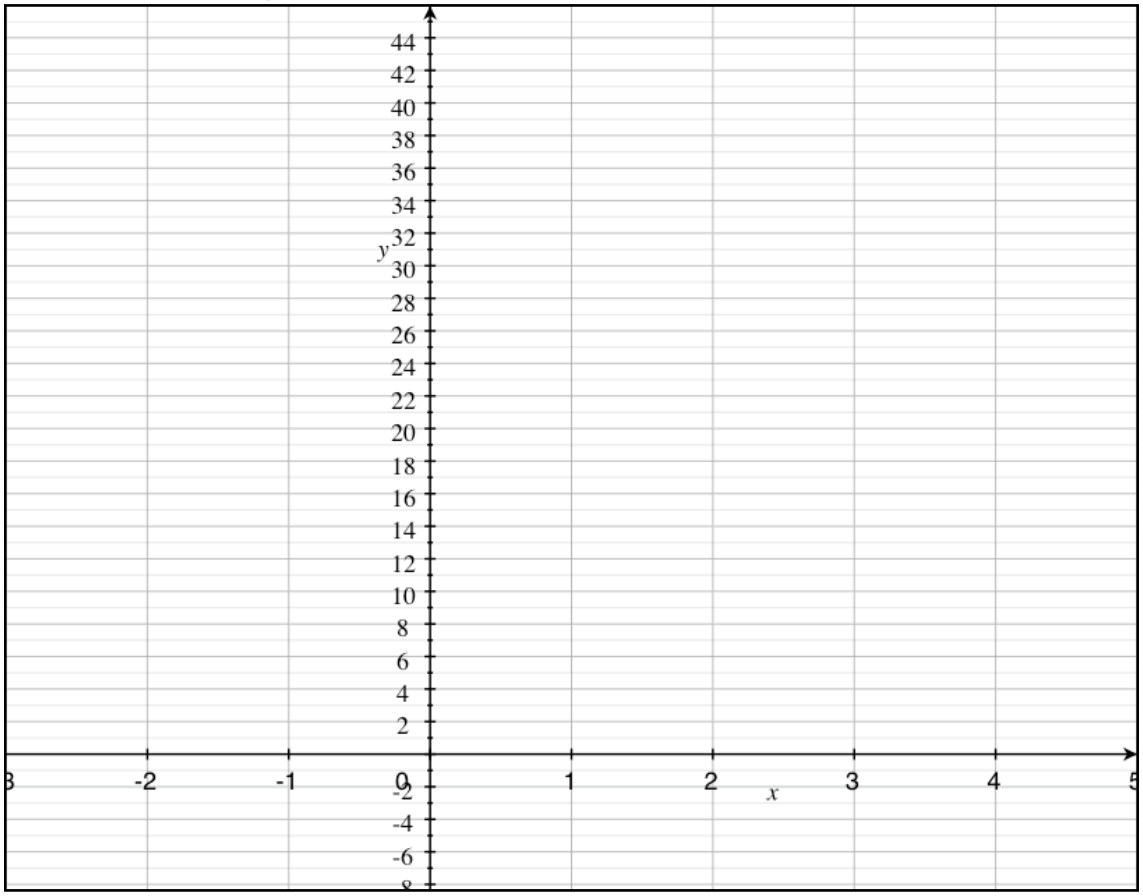
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



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Radioactive substances decay over time, which means that if you leaving for a period of time you will have less of it than you started with. Imagine that you start with 100 grams of a radioactive substance and every day that you leave it sitting you will have half of what you started with

What is the initial value?

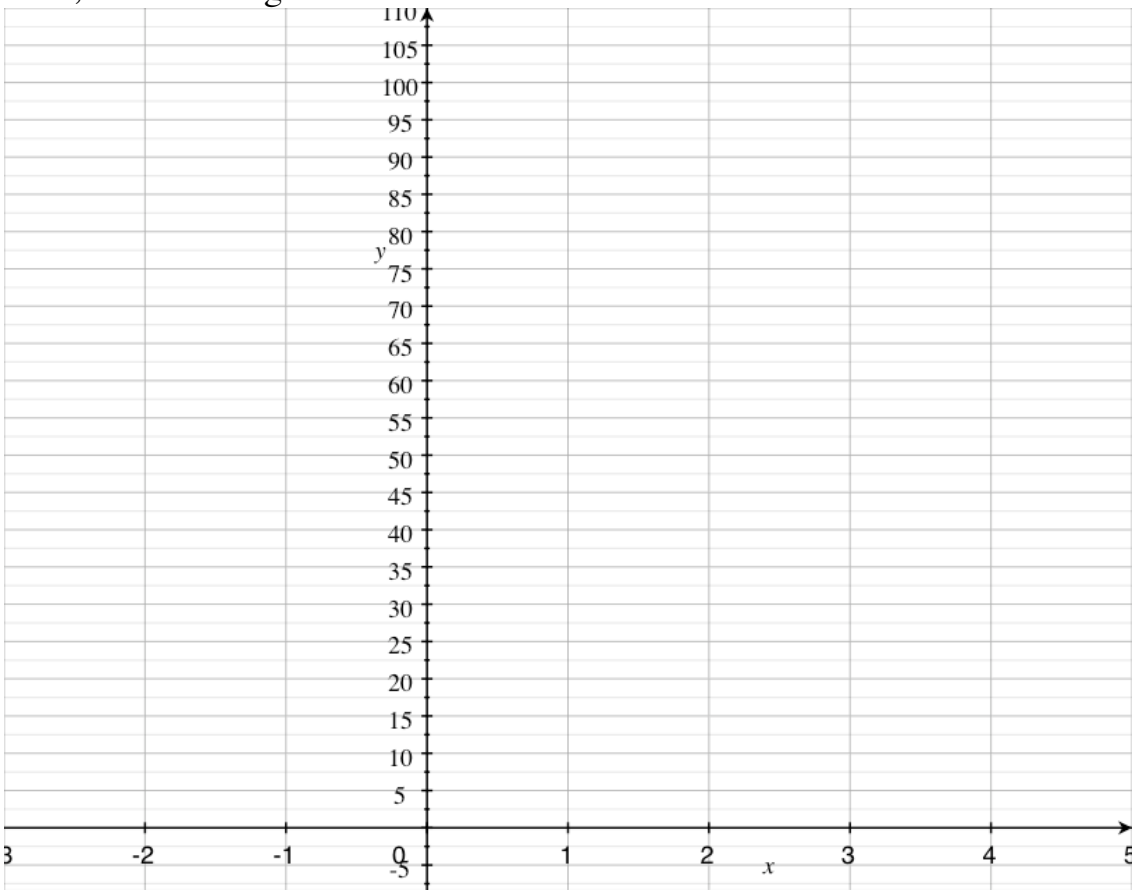
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

Radioactive substances decay over time, which means that if you leaving for a period of time you will have less of it than you started with. Imagine that you start with 80 grams of a radioactive substance and every day that you leave it sitting you will have half of what you started with

What is the initial value?

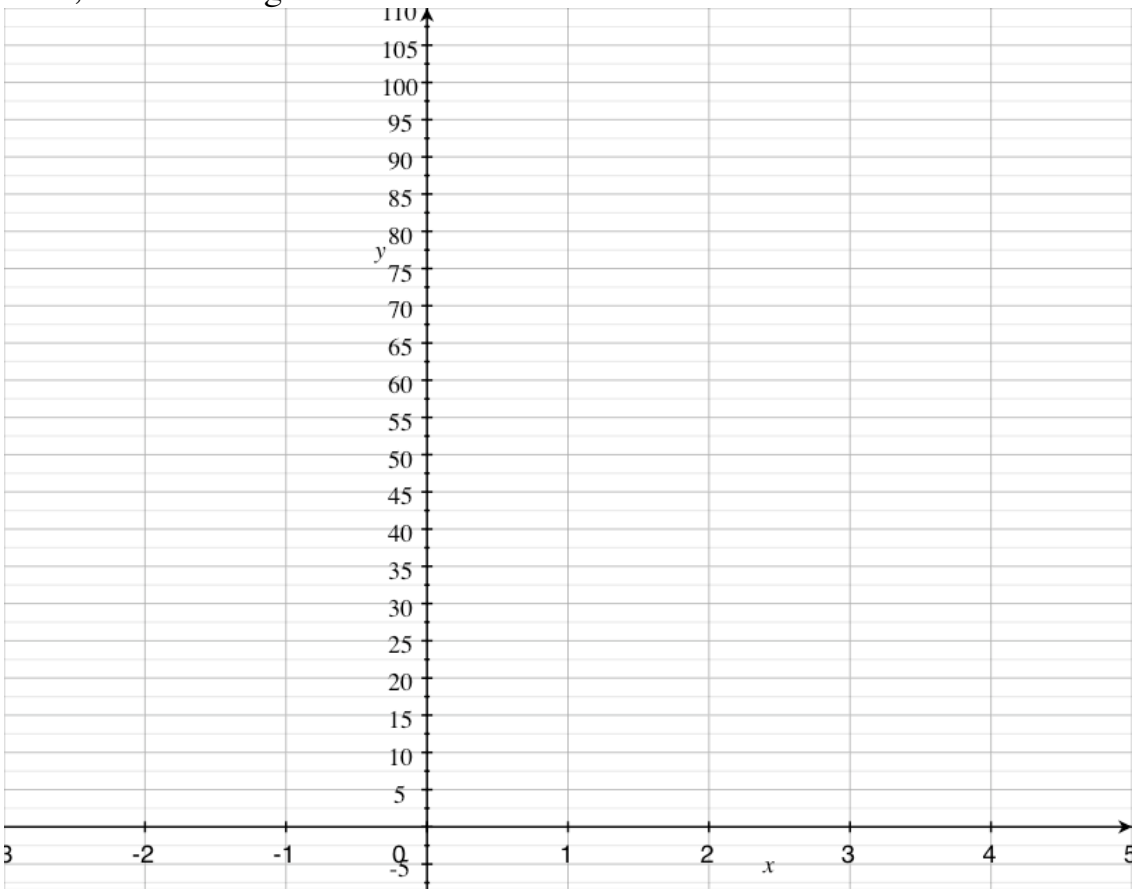
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

You $20 money into a bank and the bank gives you a really good deal. If you leave your money in the bank for a year then the bank will grow you money by 1.5 times.

What is the initial value?

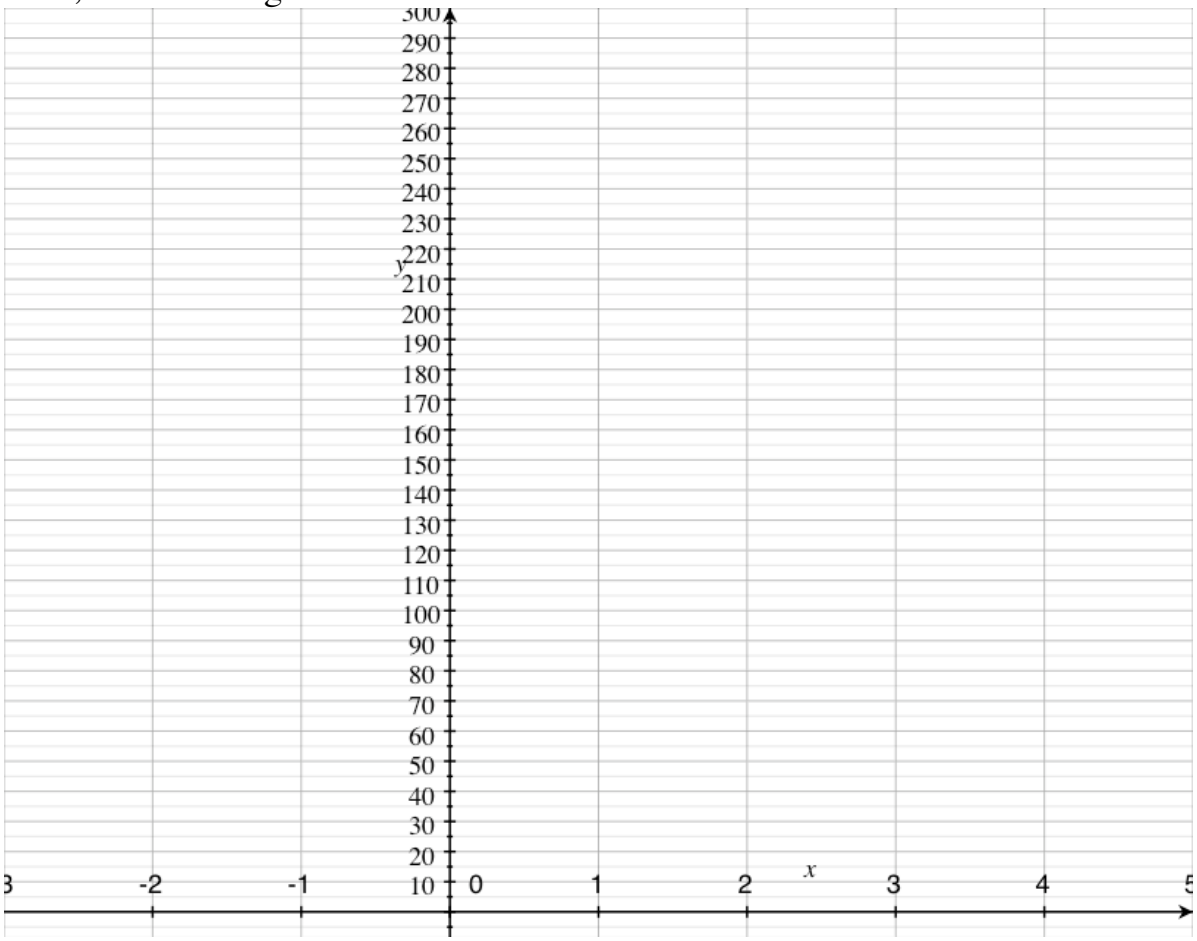
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



We can use the information from a verbal model in order to create an equation. Consider the following verbal model:

You have a piece of paper that is a square. You take scissors and cut the square into four smaller squares and keep repeating the process.

What is the initial value?

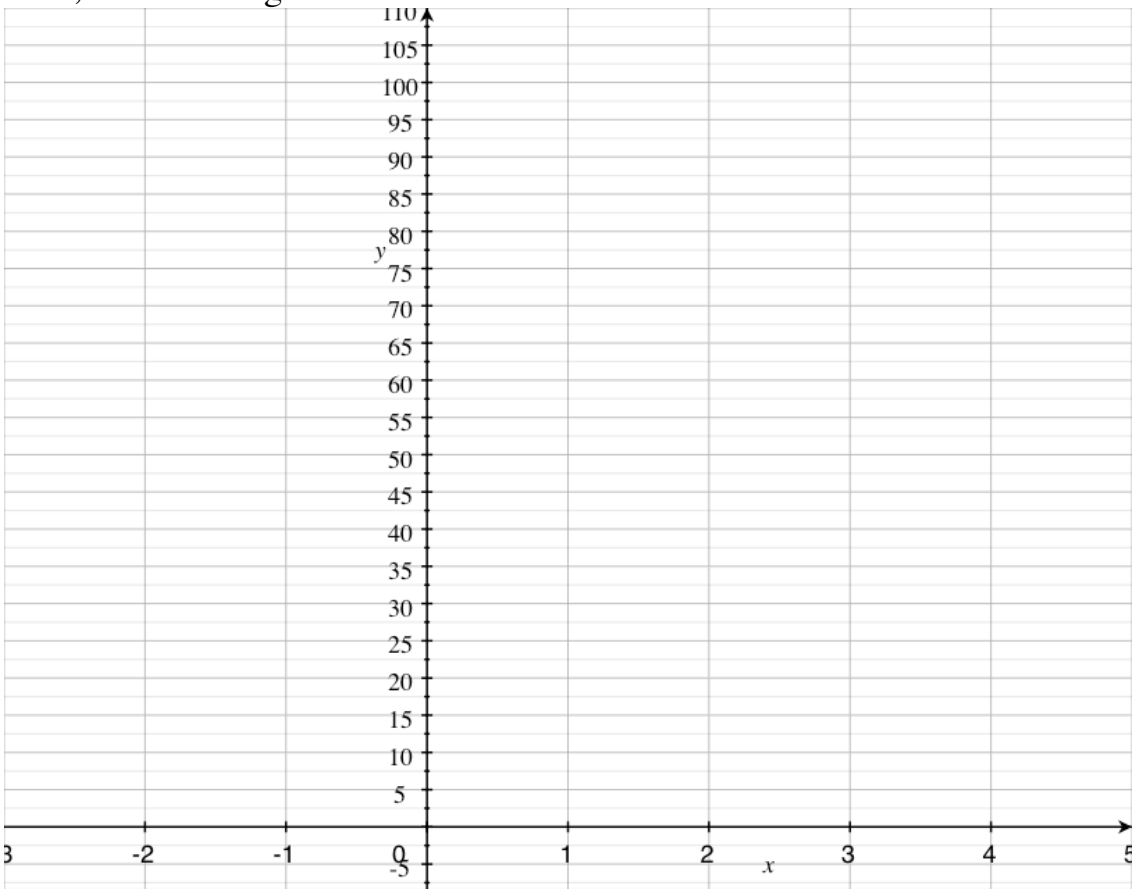
a=

What is the growth factor?

b=

Construct the equation for the verbal model:

Now, create a rough sketch.



Precalc – Exit Slip – 9/30/10

Name:_____ Period:_____

1) Ms. Enrich is studying a chemical that decays. She starts with 256 grams of the chemical and after everyday she has half as much as she started with. Create an equation and graph for the amount of chemical that she has over time.