Precalc Warm Up – 10/5/10

Name:_____ Period:_____

1) Evaluate the following expressions
   a. $4^{-1} =$
   b. $4^{-3} =$
   c. $\left(\frac{1}{4}\right)^{-2} =$

2) Consider $f(x) = x^2 - 2x$
   a. If x=3 is f(x) positive or negative?
   b. If x=1 is f(x) positive or negative?
   c. If x=-3 is f(x) positive or negative?

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Precalc
MASTERY CHECK Preparation

Name:_____Date:_____Period:_____

How do you feel about each objective? Place yourself on the continuum

1) Students will know the meaning of a negative exponent and will be able to evaluate an expression with a negative exponent.

<----Confused----------Unsure----------Confident---->

2) Students will be able to graph an exponential function (including negative values of x) by creating a table and plotting points.

<----Confused----------Unsure----------Confident---->

3) Students will be able to identify asymptotes for exponential functions.

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

<----Confused----------Unsure----------Confident---->

FOR RESOURCES ON ALL OF THESE OBJECTIVES GO TO:

http://chavezmath.wikispaces.com/

If you need an invite email Mr. Monte-Sano at
alex.monte-sano@chavezschools.org

1) Students will know the meaning of a negative exponent and will be able to evaluate an expression with a negative exponent.

1) What is the meaning of a negative exponent?

Evaluate the following

1) $4^{-1} =$

2) $8^{-1} =$

3) $2^{-3} =$

4) $4^{-2} =$

5) $15\left(5^{-1}\right) =$

6) $64\left(2^{-5}\right) =$

7) $9\left(3^{-4}\right) =$

8) $0.1\left(10^{-1}\right) =$

9) $10\left(10^{-2}\right) =$

10) $49\left(7^{-2}\right) =$

Evaluate the following

1) $\left(\frac{2}{3}\right)^{-1} =$

2) $\left(\frac{5}{8}\right)^{-1} =$

3) $\left(\frac{2}{3}\right)^{-3} =$

4) $\left(\frac{3}{4}\right)^{-2} =$

5) $\left(\frac{1}{3}\right)^{-2} =$

6) $\left(\frac{5}{7}\right)^{-3} =$

7) $\left(\frac{3}{2}\right)^{-5} =$

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

9) $\left(\frac{6}{3}\right)^{-3} =$

10) $\left(\frac{5}{2}\right)^{-3} =$

11) $5\left(\frac{5}{1}\right)^{-1} =$

12) $\frac{1}{2}\left(\frac{1}{2}\right)^{-1} =$

13) $10\left(\frac{1}{2}\right)^{-3} =$

14) $0.5\left(\frac{1}{2}\right)^{-1} =$

15) $0.2\left(\frac{1}{5}\right)^{-1} =$

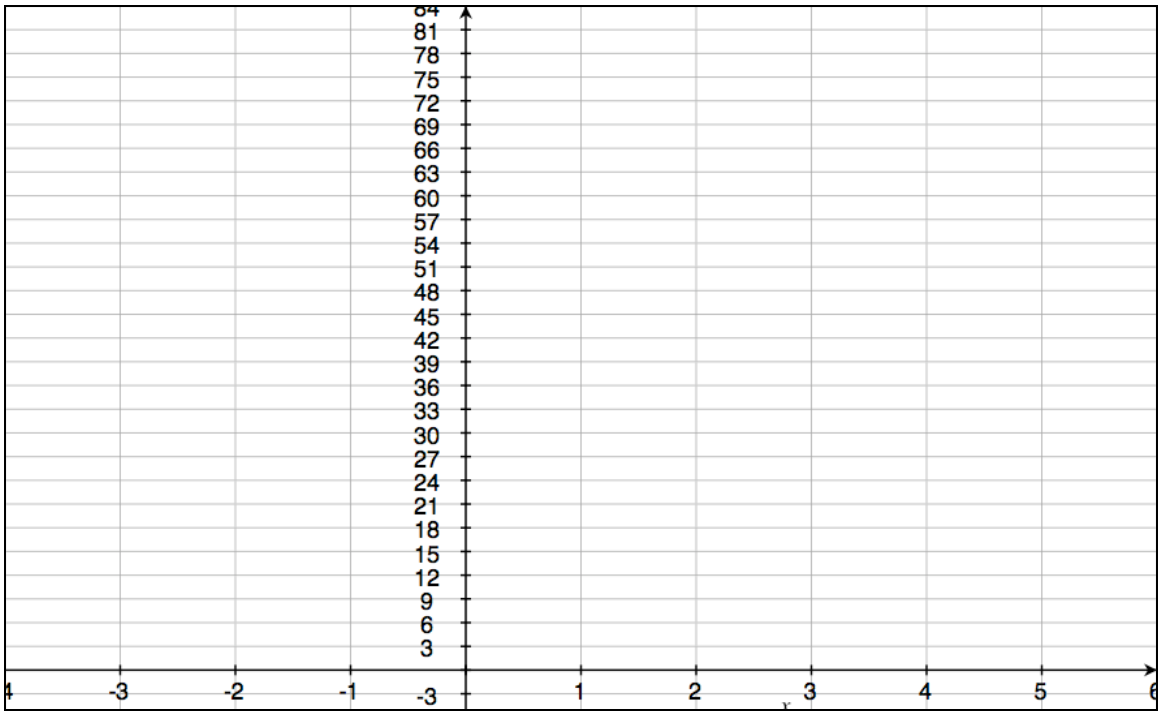
16) $0.1\left(\frac{1}{10}\right)^{-2} =$

17) $0.25\left(\frac{1}{4}\right)^{-3} =$

2) Students will be able to graph an exponential function (including negative values of x) by creating a table and plotting points.

Consider the function $f(x) = 3^x$

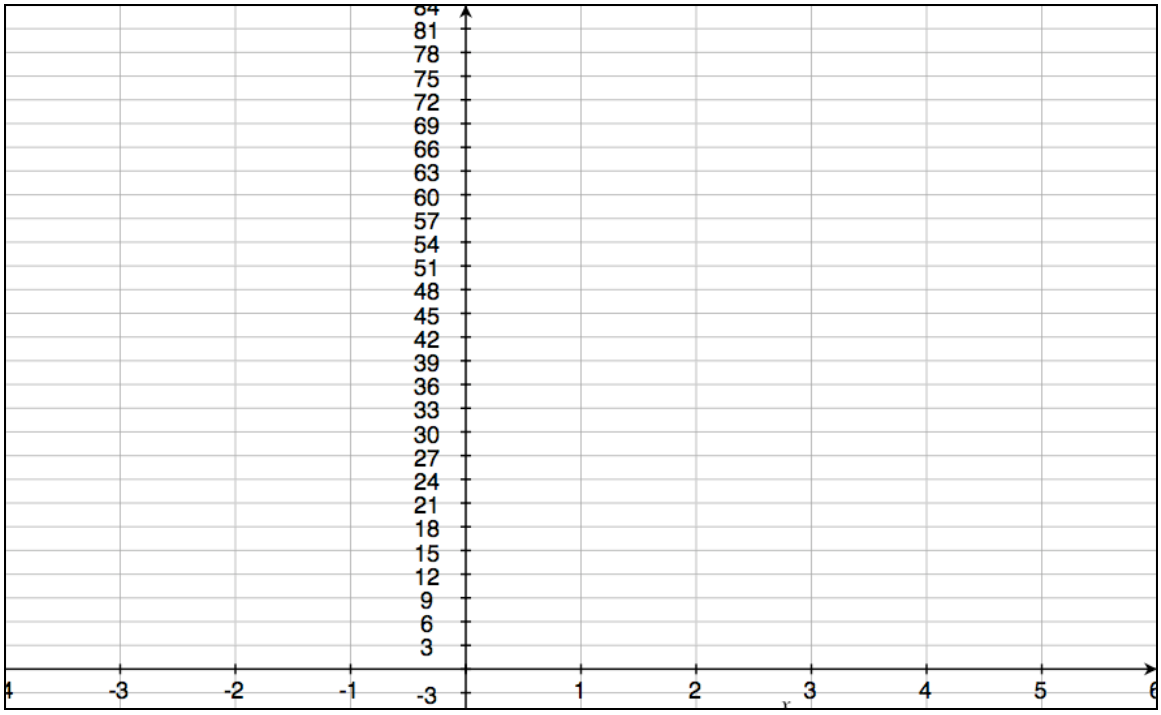
Sketch $f(x)$ and identify the y-intercept and end behavior.



y-intercept:

End behavior:

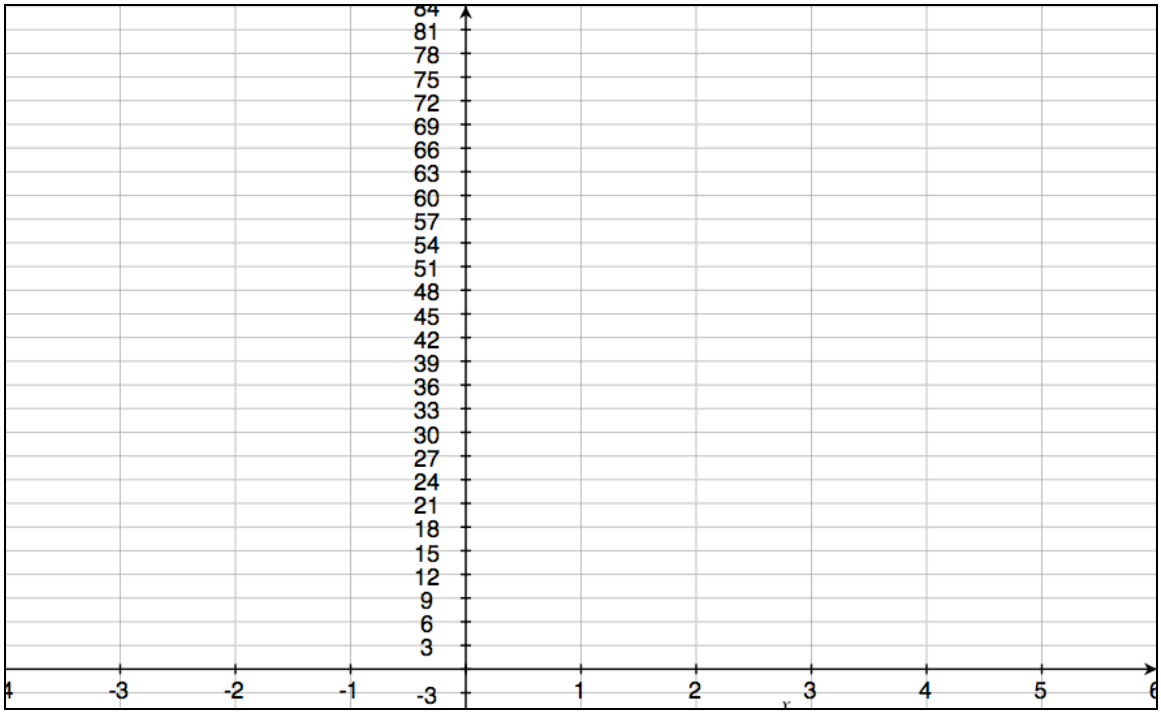
Sketch the graph of $f(x) = 2(3^x)$ and identify the y-intercept and end behavior.



y-intercept:

End Behavior:

Sketch the graph of $f(x)=\left(\frac{1}{3}\right)^x$ and identify the y-intercept and end behavior.

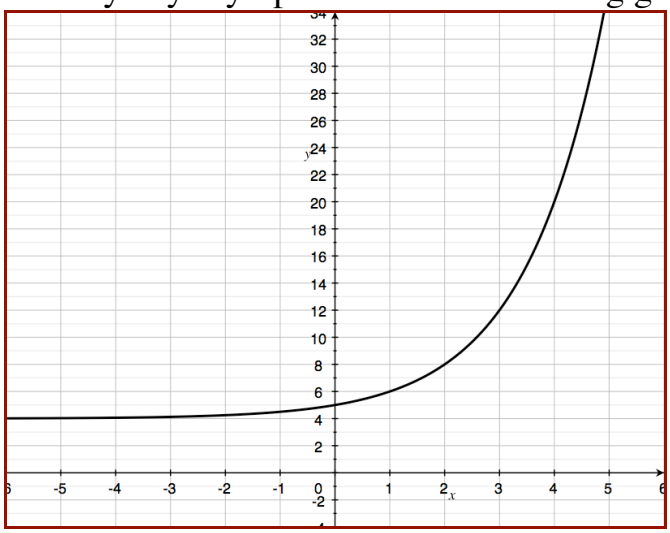


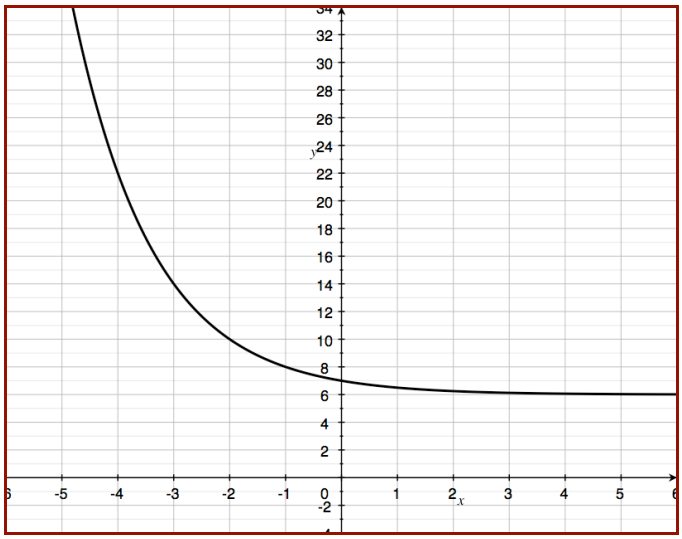
y-intercept:

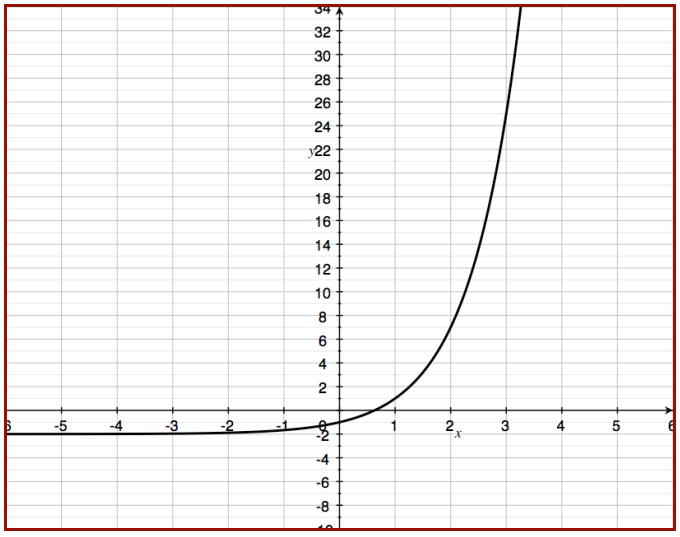
End behavior:

3) Students will be able to identify asymptotes for exponential functions.

Identify any asymptotes for the following graphs







State any asymptotes for the following functions

1) $f(x) = 2^x + 5$

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

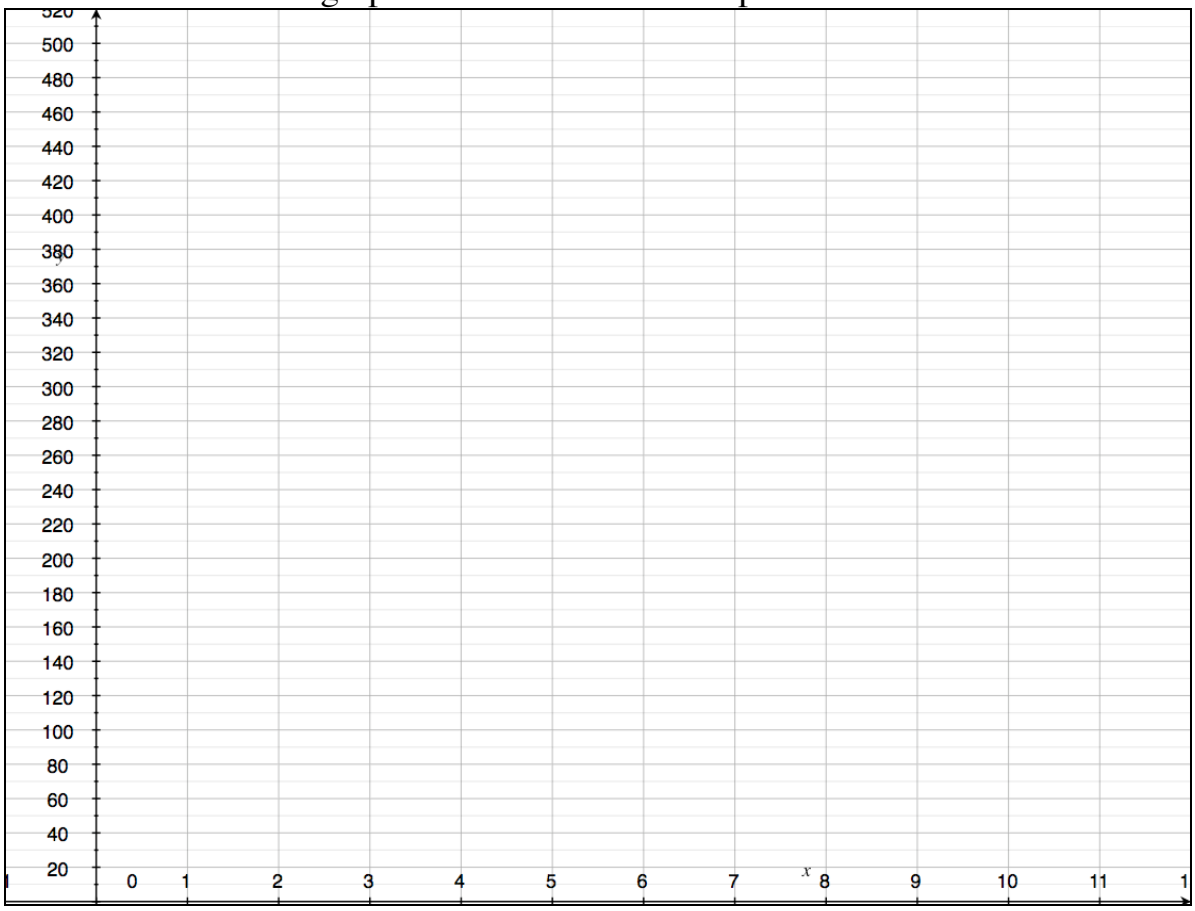
3) $f(x) = 0.5^x + 2$

4) $f(x) = -(2^x) + 8$

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

1) Vampires have invaded DC and are ready to drink some blood! Imagine that a Chavez student was bitten last night (vampires only come out at night) and is now a vampire. Tonight that student will bite another student and so now Chavez has two vampires!

   a. Sketch a graph of the number of vampires at Chavez.



   b. Is the number of vampires an exponential growth or decay function?

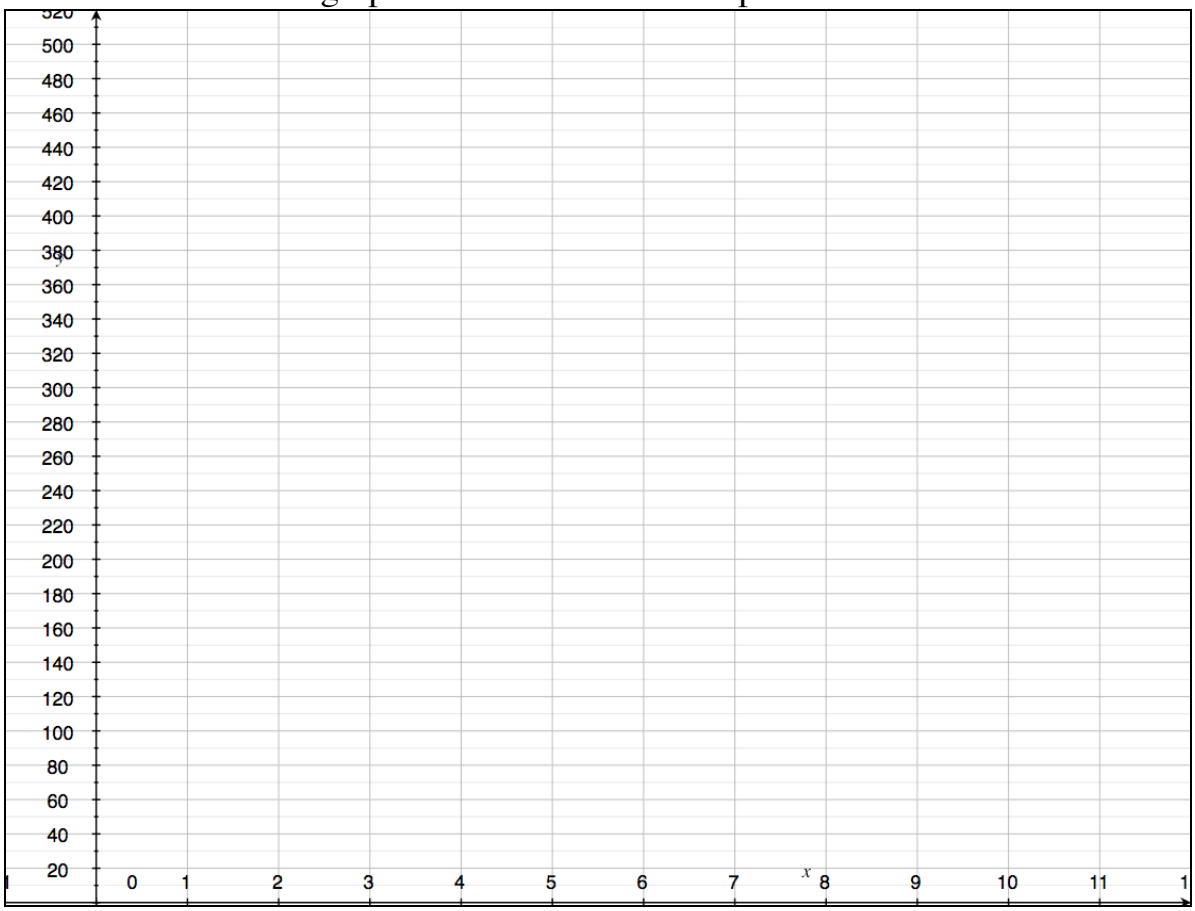
   c. What is the initial value of your function? What is the growth rate of your function?

   d. Construct the equation for the function in the form of $f(x) = a(b^x)$ [you will NOT get this on tomorrow's mastery check this is here to help you review.]

   e. How many nights will it take until all 400 Chavez students are vampires?

2) Once every student has become a vampire they begin to die. One day 0 there are 400 vampires. Each day after day 0 half of the vampires die.

a. Sketch a graph of the number of vampires at Chavez.



b. Is the number of vampires an exponential growth or decay function?

c. What is the initial value of your function? What is the growth rate of your function?

d. Construct the equation for the function in the form of $f(x) = a(b^x)$ [you will NOT get this on tomorrow's mastery check this is here to help you review.]

e. What is the asymptote of this function?

Precalc Exit – 10/5/10

Name:_____ Period:_____

1) What is the objective that you need study the most?

2) What are you going to do to prepare for that objective?

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