Name:_____ Date:_____

Exponential graphing!

1) Domain:_____

Range:_____

X-intercept:_____

Y-intercept:_____

Increasing or Decreasing

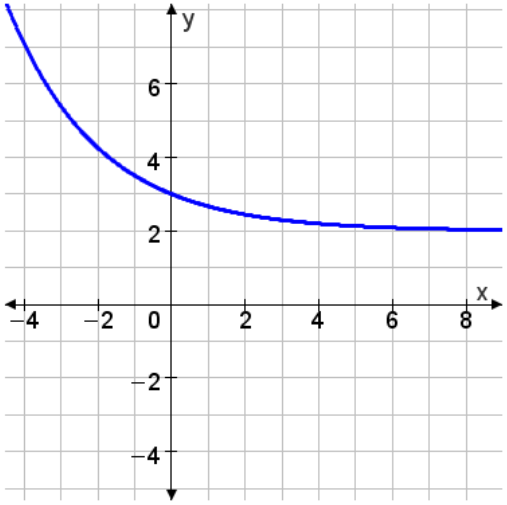
Growth or Decay

Asymptote:_____

End Behavior

As x → -∞, y → _____

As x → ∞, y → _____



2) Domain:_____

Range:_____

Zero:_____

y-intercept:_____

Increasing or Decreasing?

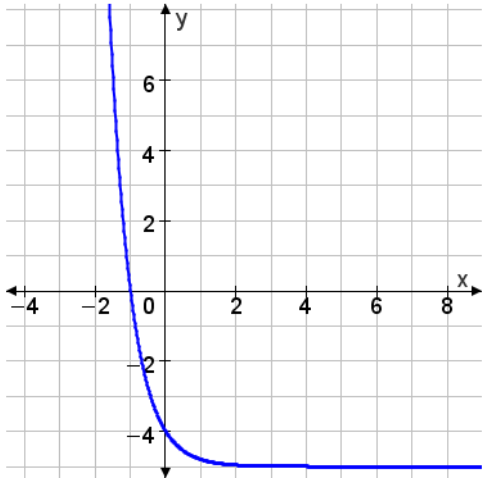
Growth or Decay

Asymptote:_____

End Behavior

As x → -∞, y → _____

As x → ∞, y → _____



3) $y=\frac{1}{4}(6)^{x-1}-3$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

y-intercept? _____

4) $y=-4\left(\frac{2}{3}\right)^{x}+5$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

5) $y=\frac{1}{2}\left(\frac{3}{4}\right)^{x-7}$

Stretch or Shrink?_____

By how much?_____

Growth or Decay?_____

Reflection or no Reflection?_____

Horizontal Shift?_____

Vertical Shift?_____

Asymptote?_____

Y-intercept?_____

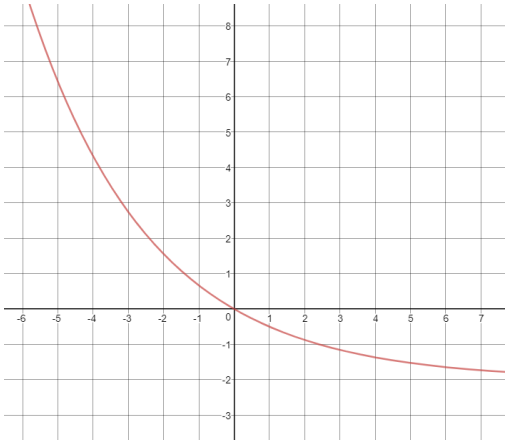
6) What is the equation of the graph?

A. $y = 2\left(\frac{3}{4}\right)^x - 2$

B. $y = 2\left(\frac{3}{4}\right)^x + 2$

C. $y = -2\left(\frac{3}{4}\right)^x - 2$

D. $y = 2\left(\frac{4}{3}\right)^x - 2$



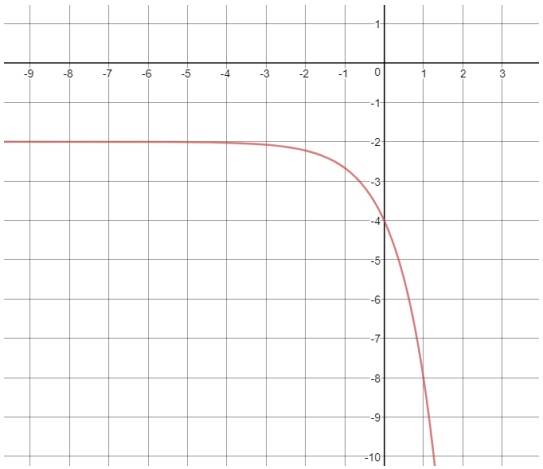
7) What is the equation of the graph?

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

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

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

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



8) Describe the transformations of how f(x) = 5^x would change into f(x) = 5^x + 1

9) How is the graph f(x) = $\frac{1}{2}^x$ would change into f(x) = $\frac{1}{2}^{x-5}$

10) What is the y-intercept of $y = \frac{1}{2}(2)^x - 6$?

11) Write the equation of a function that is a decay with a base of $\frac{2}{3}$ a asymptote of 4 and a right shift of 3.

12) What would be the equation of an exponential function that is a reflected growth function by a base of 3 that is shifted up 5 and right 2?

13) Write an equation of an exponential graph that is a decreasing growth function?

14) Write an equation of an exponential graph that has an asymptote of 5 and is a decreasing decay.

15. Alton is saving money in his bank account. His bank gives him an interest rate of 1.3% each year. If he has $4,000 right now how much money will he have in 10 years?	16. Riley has been putting money aside each month to save up for a vacation. She started with $125 in her bank account. She is putting $25 into her account every week. How much will she have after 16 weeks?
17. Everyone at school seems to be getting sick with the cold. Today there are 15 students sick with the cold. If the rate that students are getting sick is doubling each day how many students will be sick in 9 days?	18. A cup of coffee is sitting on Dr. Oldham's desk. It started at 155° and the temperature is decreasing at a rate of 2.4% each minute. How hot will the coffee be in 30 minutes?
19. Kia is opening up a savings account that gives her 2.3% interest compounded monthly. If she deposits $5,000 now, how much will she have in 10 years.	20. You complain that the hot tub in your hotel suite is not hot enough. The hotel tells you that they will increase the temperature by 10% each hour. If the current temperate is 75° F, How many hours will it take to get to 100°?

Given the following equations, answer the following
A. Is it a growth or a decay
B. What is the growth or decay percent?

21. $y = 5(1.14)^x$ 22. $y = -3(0.25)^x$ 23. $y = (0.01)^x$

Given the following sequence -5, -1, 3, 7, 11….

24) What is a_{31}?

25) Write a recursive rule to the following

26) What an explicit model for the sequence above

Given the following sequence: 5, -10, 20, -40, 80….

27) Write the recursive rule and give a_1

28) Determine the twentieth term

29) Write an explicit model for the sequence above.

30) Given the sequence $a_n = 2(5)^{n-1}$ what is the common ratio?