

Today's Learning Goal(s):

Date: _____

By the end of the class, I will be able to:

- a) graph exponential functions using transformations.

Last day's work: pp. 214-215 A – H
p. 216 #1, 2

Additional Info for
p.216 #2 (*at end*)

4.6 Transformations of Exponential Functions

Date: _____

Recall: $y = af(k(x-d)) + c$

A new Parent Function

$$y = b^x$$

Same rules apply.

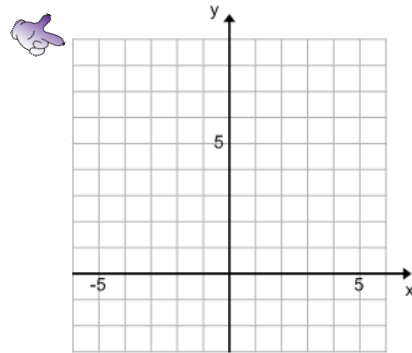
**don't forget to factor k out of $(kx - d)$

Features:

Horizontal Asymptote

Domain

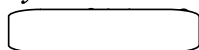
Range



Ex.1 Sketch the following.

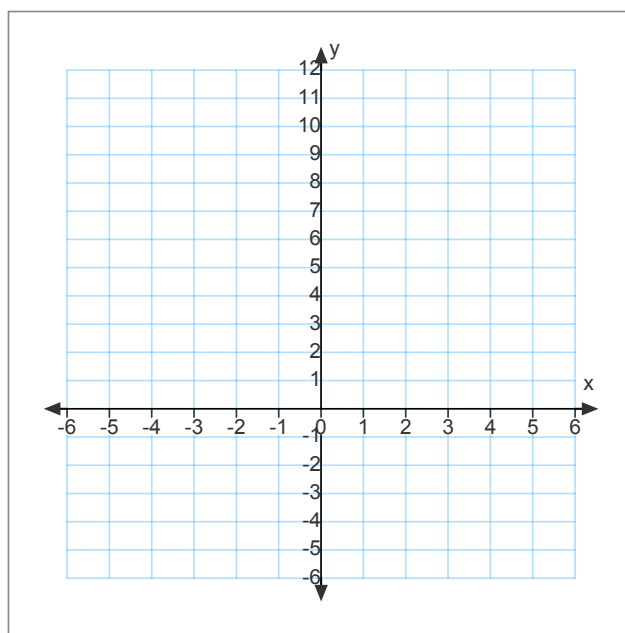
$$y = 2^x$$

$$y = 2^x - 3$$



$$y = 2^{x+2}$$

$$y = 3(2^x)$$



Ex.2 Exponential Functions:

Name the base function and describe the transformations on each graph.

a) $f(x) = 2^{x-4} + 3$ b) $g(x) = \frac{1}{3}(4^{x-2}) - 1$

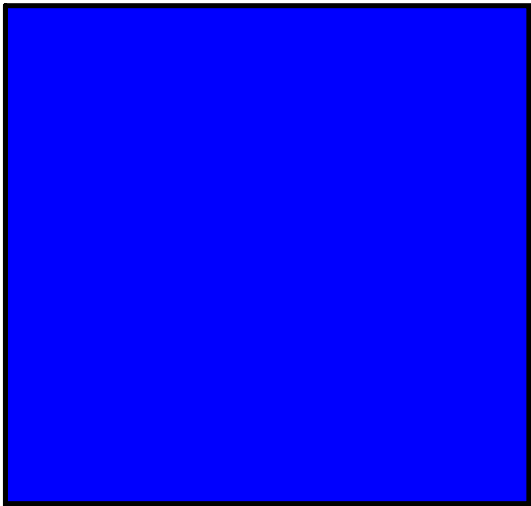
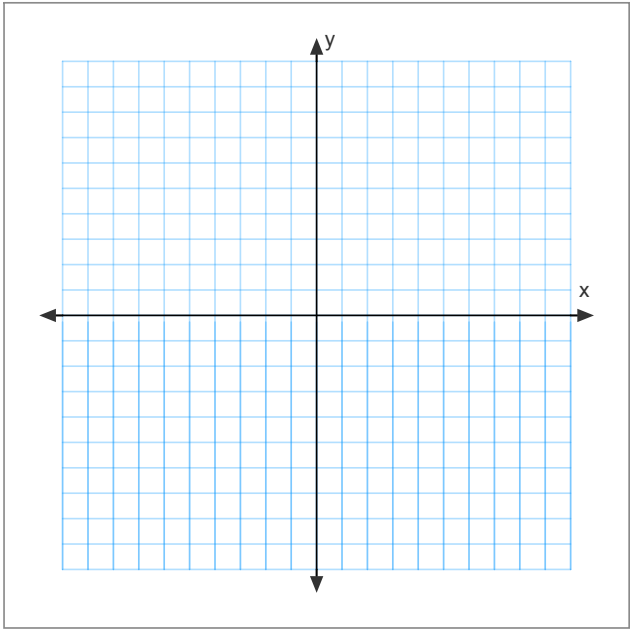
c) $f(x) = \frac{1}{2}(5^{3x-9}) - 2$ d) $g(x) = -2(3^{-2x-4}) + 1$

Ex.3 Sketch the graph of $y = -2(4^{x-3}) - 1$.
State the domain and range, and the y-intercept of the graph.

$$y = -2(4^{x-3}) - 1$$

<i>x</i>	<i>y</i>
-1	
0	
1	

$$y = (4^x)$$



$$y = -2(4^{x-3}) - 1$$



Pull

Are there any Homework Questions you would like to see on the board?

Last day's work: pp. 214-215 A – H
p. 216 #1, 2

Today's Homework Practice includes:

pp. 251-253 #1 – 5, 9, 10 [12 – 14]

Additional Info for
p.216 #2 (*next page*)