Warm up

Solve

Simplify

$3x \pm 5 = 14$

$x^2 \cdot x^5 \cdot x^3$

$5 = 9 \div 3$

$3\overline{)3x}$

$\boxed{x = 3}$

$2+5+3=10 \quad \boxed{x^{10}}$

7-1: Graphing Exponential Functions

Objectives: I can graph an exponential function from an equation

Does the following table represent exponential behavior? Why or why not?

+5

x	0	5	10	15	20	25
y	64	32	16	8	4	2

÷2 ÷2 ÷2 ÷2

Exponential Equation

$$a \cdot b^x$$

Review: Is it exponential growth or decay?
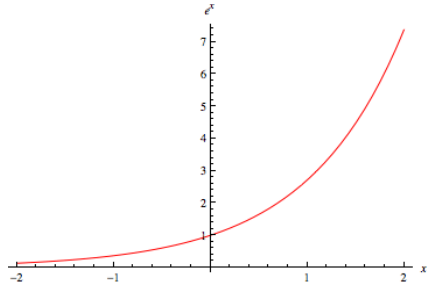
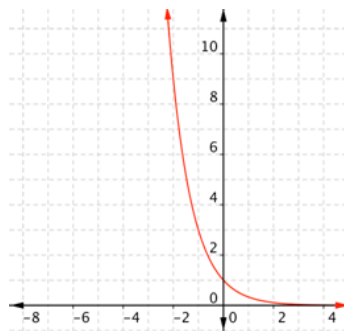$$y = \frac{1}{2}(3)^x$$

G

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

D

$$y = 5\left(\frac{6}{5}\right)^x$$
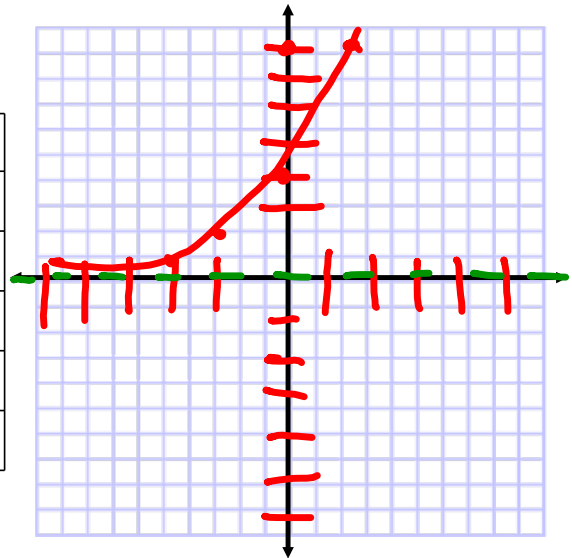
G

G

D

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

x	y =	(x,y)
-2	$y = 2(3)^{-2} = .22$	
-1	$y = 2(3)^{-1} = .66$	
0	$y = 2(3)^0 = 2$	
1	$y = 2(3)^1 = 6$	
2	$y = 2(3)^2 = 18$	

Graph $y = 4(3)^x \boxed{-2}$

x	y =		(x,y)
-2	$y = 4(3)^{-2} - 2 = 1.5$		-2,1.5
-1	-0.67		-1,.66
0		2	0,2
1		10	1,10
2		34	2,34
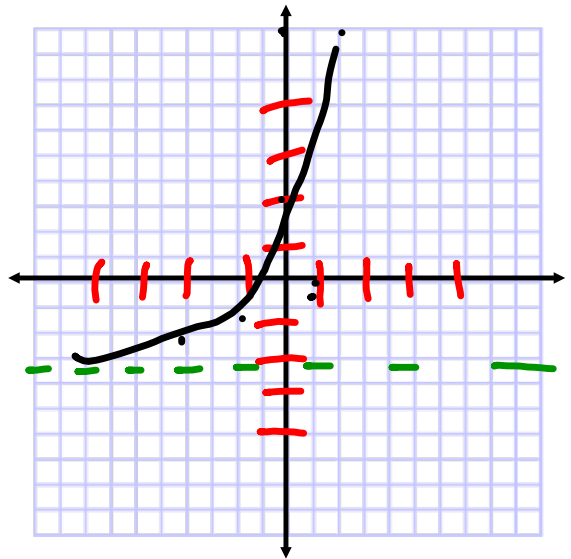
Graph $y = 2\left(\dfrac{1}{2}\right)^{x} + 0$

x	y =	(x,y)
-2		
-1		
0		
1		
2		

Graph $y=\left(\dfrac{1}{2}\right)^{x}-1$

x	y =	(x,y)
-2		
-1		
0		
1		
2		