Hand in disclosures - due tomorrow!
Bell Ringer

Wednesday 11/20

Determine whether the equation represents an exponential function. Explain.

1. $y = -6x$ — No

2. $y = -5^x$ — Yes — $y = -1 \cdot 5^x$

3. $y = -2(3)^x$ — Yes

Evaluate the function for the given value of x

4. $y = 4^x$, $x = 5$ — $y = 4^5$, $1{,}024$

5. $y = \frac{1}{2}(6)^x$, $x = 2$ — $y = \frac{1}{2}(6)^2$, $= 18$

6. $f(x) = -1(7)^x$, $x = 3$ — -343

Remember yesterday...

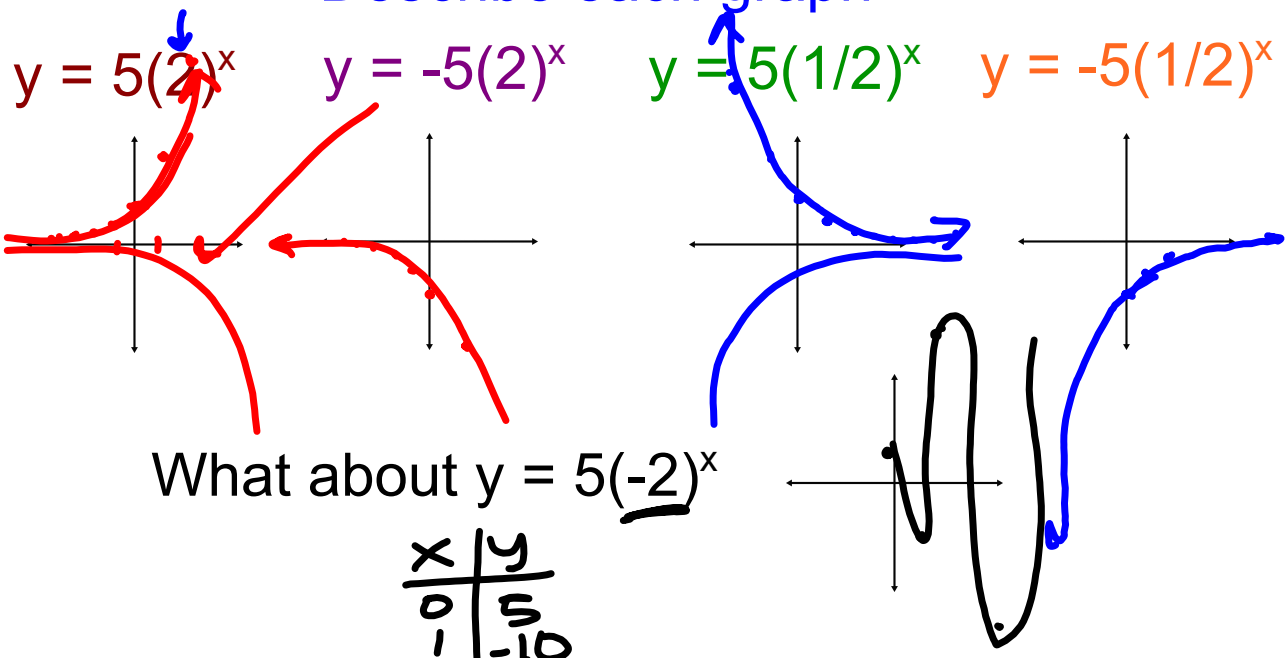
$$y = a(b)^x$$

a = y-int

b = common ratio

Describe each graph

$y = 5(2)^x$ $y = -5(2)^x$ $y = 5(1/2)^x$ $y = -5(1/2)^x$

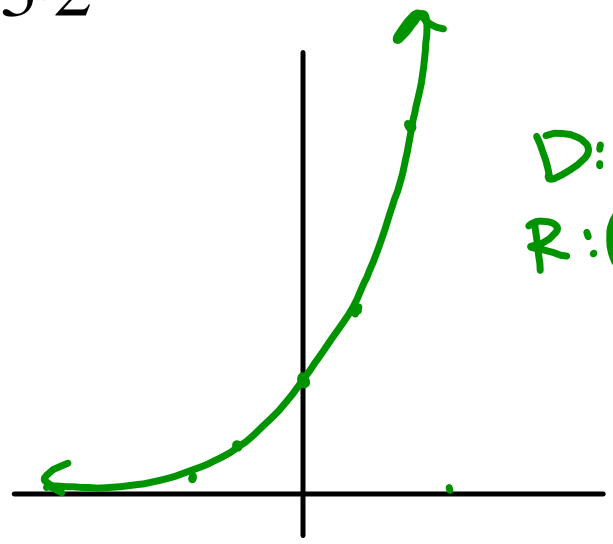


What about $y = 5(-2)^x$

x	y
0	5
1	-10
2	20
3	-40
4	

Graph $y = 3 \cdot 2^x$

x	y	
-2	3/4 .75	$3 \cdot 2^{-2}$
-1	3/2=1.5	$3 \cdot 2^{-1}$
0	3	$3 \cdot 2^{0}$
1	6	$3 \cdot 2^{1}$
2	12	$3 \cdot 2^{2}$



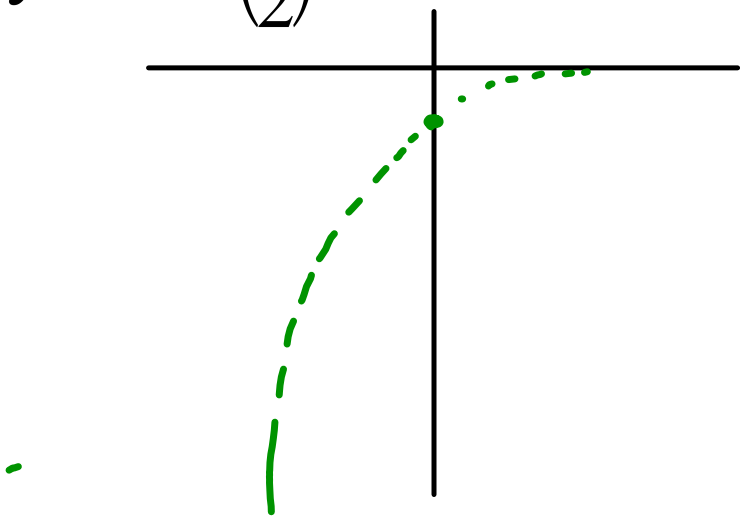
D: $(-\infty, \infty)$

R: $(0, \infty)$

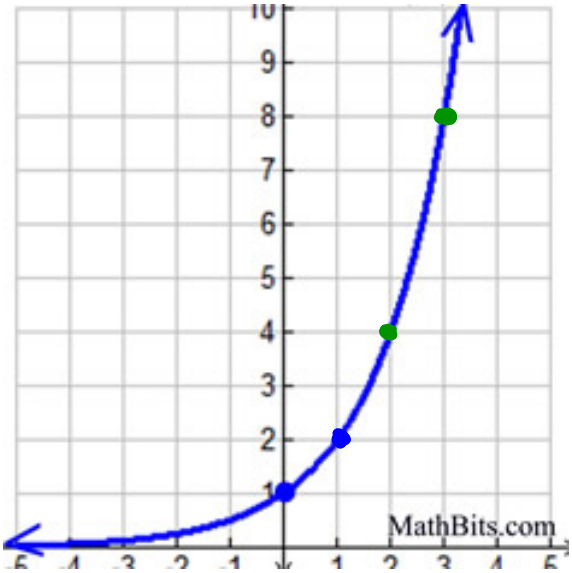
Graph

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

x	y
-2	
-1	
0	
1	
2	



Write the equation of the function shown

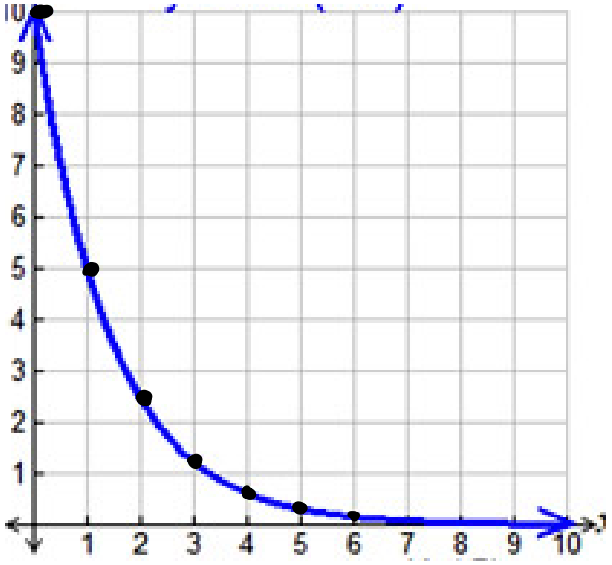


(0,1)
(1,2)
(2,4)
(3,8)

$y = 1 \cdot 2^x$

$y = 2^x$

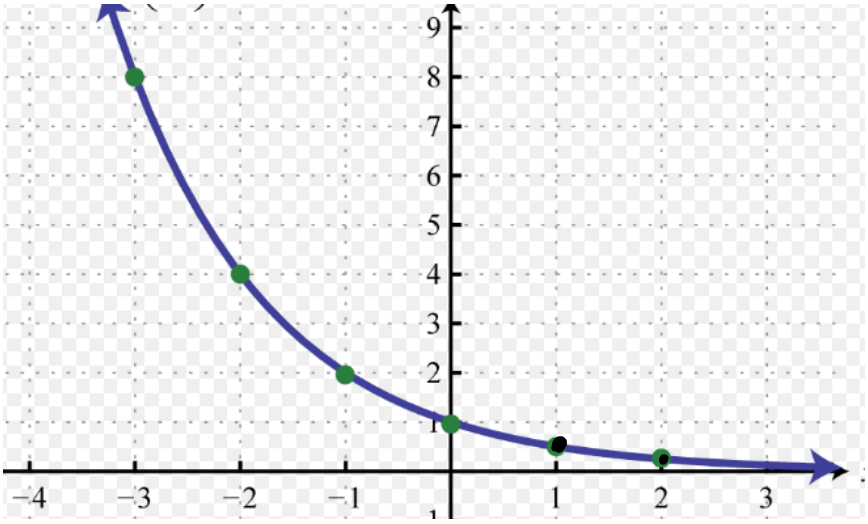
Write the equation of the function shown



$y = 10\left(\frac{1}{2}\right)^x$

$10 \cdot \frac{1}{2}^x$

Write the equation of the function shown

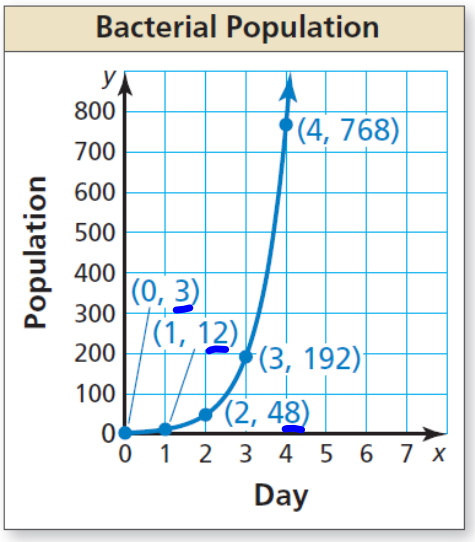


$y = \left(\frac{1}{2}\right)^x$

The graph represents a bacterial population y after x days.

a. Write an exponential function that represents the population.

$y = 3(4)^x$



b. Find the population after 5 days.

3,072 bacteria

$y = 3(4)^5$

A bacterial population *y* after *x* days can be represented by an exponential function whose graph passes through (0, 100) and (1, 200).

×2

Write a function that represents the population.

$y = 100(2)^x$

Find the population after 6 days.

$y = 100(2)^6$

6400

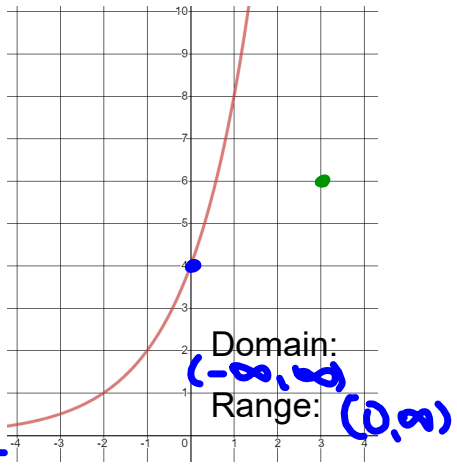
$$y = a(b)^{x-h} + k$$

shifts h units left or right (opposite direction of sign)

shifts k units up or down

$y = 4(2)^x$

x	y
-2	1
-1	2
0	4
1	8
2	16
3	32
4	64



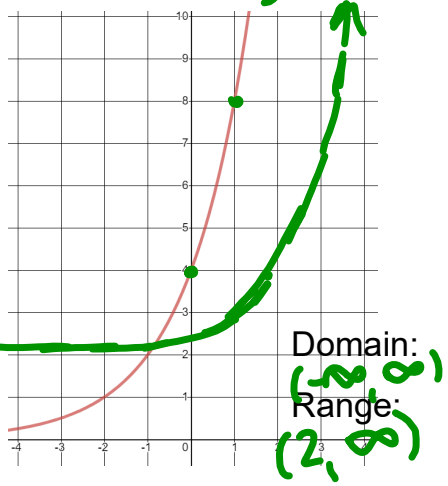
Domain: $(-\infty, \infty)$

Range: $(0, \infty)$

Graph $y = 4(2)^{x-3} + 2$ (up 2)

right 3

x	y
-2	
-1	
0	
1	
2	
3	6
4	

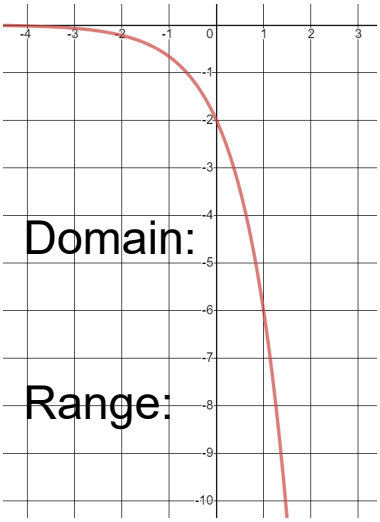


Domain: $(-\infty, \infty)$

Range: $(2, \infty)$

Describe the transformation done to the function $y = -2(3)^x$ to obtain $y = -2(3)^{x+2} - 1$

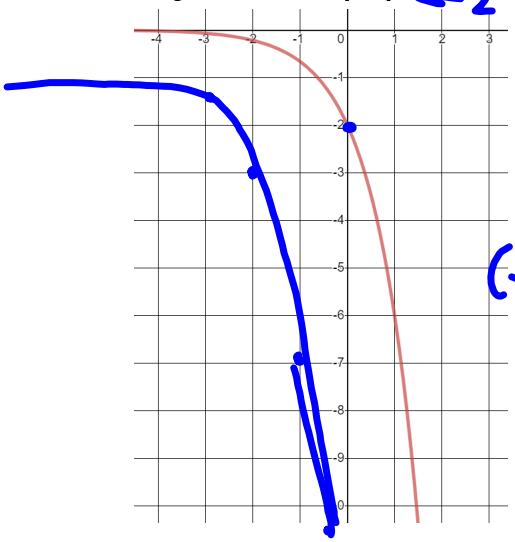
$y = -2(3)^x$



Domain:

Range:

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

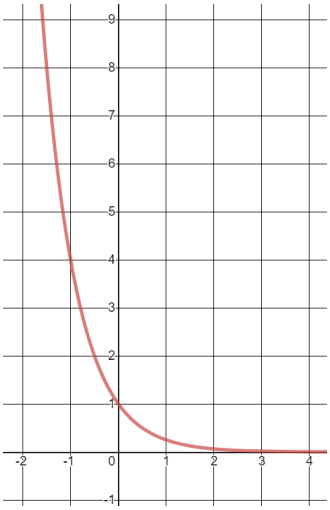


Domain:

Range: $(-\infty, -1)$

Describe the transformation done to the function $y = (0.25)^x$ to obtain

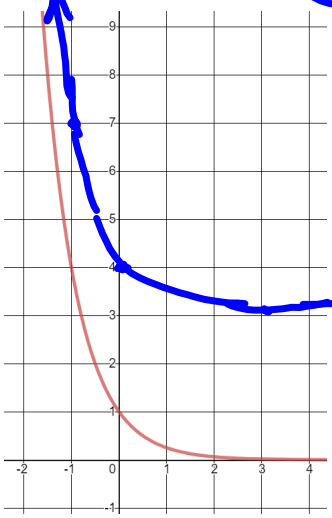
$y = (0.25)^x$



Domain:

Range:

$f(x) = (0.25)^x + 3$ up 3!



Domain: $(-\infty, \infty)$

Range: $(3, \infty)$

Describe the transformation(s) done to the function

$y = 3(2)^x$

$y = 3(2)^{x-2}$ → 2

$y = 3(2)^x + 5$ ↑ 5

$y = 3(2)^{x+3} - 1$ ← 3 ↓ 1

$y = 3(2)^{x+4} + 4$ ← 4 ↑ 4

$y = 3(2)^x - 10$ ↓ 10

$y = 3(2)^{x-8}$ → 8

due Friday

6.1 hw pg 278-280 #s 2-4, 5-17 odd, 21-33 odd, 41, 46, 47, 49, 51, 54, 58, 65, 66

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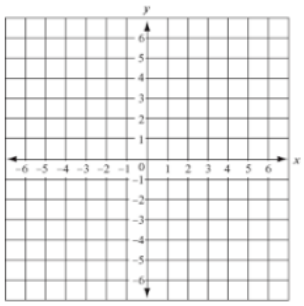
Math 1A Honors – Bell Ringer Week #1

Tuesday 11/19

1. Graph $y < 3x - 4$. Name one solution and one non-solution.

Solution: _____ Non-solution: _____



2. Jane buys three candy bars and four fruit roll ups for $2.84.
Peter buys three candy bars and one fruit roll up for $1.79.
What is the cost of a candy bar? What is the cost of a fruit roll up?

Wednesday 11/20

Determine whether the equation represents an exponential function. Explain.

1. $y = -6x$
2. $y = -5^x$
3. $y = -2(3)^x$

Evaluate the function for the given value of x

4. $y = 4^x$, $x = 5$
5. $y = \frac{1}{2}(6)^x$, $x = 2$
6. $f(x) = -1(7)^x$, $x = 3$

Thursday 11/21

Determine if each table represent an exponential function.
If so, write the equation that represents the function.

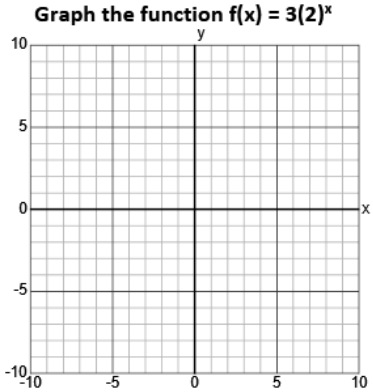
1.

x	−3	0	3	6	9
y	10	1	−8	−17	−26

2.

x	y
1	6
2	12
3	24
4	48

Graph the function $f(x) = 3(2)^x$



Describe the domain and range of f

D: _____ R: _____