

Steps for graphing an exponential from an equation

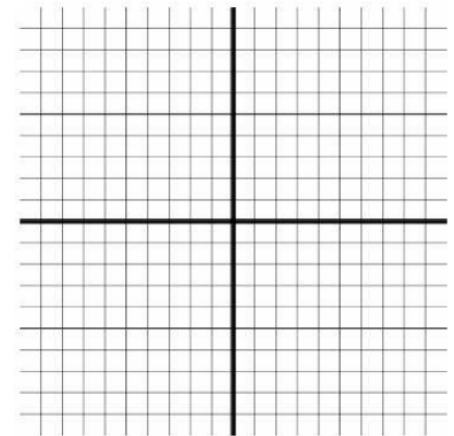
1. "TABLE"
2. input the equation → the exponent: " \wedge "
the x: " $Xabc$ "
3. Press "Enter"
4. Start = 0 and go down to OK $\frac{2}{3}$ press "ENTER"
5. Look for a y that is close to 10 or -10
6. Graph the points and the asymptote

NOTE:

Asymptote is a dashed line!

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

x	y	(x,y)



Asymptote: The horizontal line that the curve gets super close to but never reaches or crosses (BORDER)

LOOK at the Equation!
 \pm Asymptote line

WARM UP

$$y = b(1 \pm \%)^t$$

1. Brooke discovered a herd of golden unicorns in Ireland last year. She counted 76 unicorns total and every year after that the population decreases by 3%. What equation could Brooke use to predict the population of golden unicorns for any year x ? How many unicorns will there be in 8 years? (round to the nearest whole number)

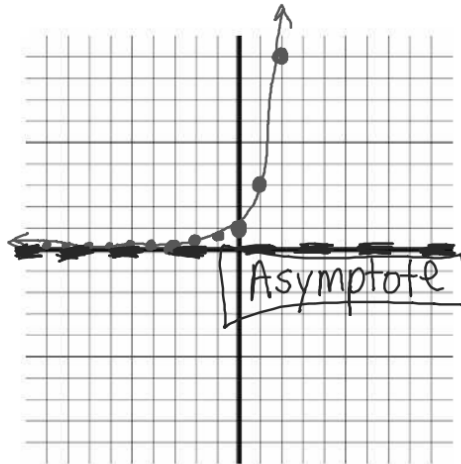
$y = 76(1 - 0.03)^x$ $3 \div 100 = 0.03$ $76(1 - 0.03)^8 = 59.564$

2. Sophie was hiking in the Swiss Alps and stumbled upon a herd of 93 rainbow unicorns! She went back the next year and noticed that the herd increased by 5%. How many unicorns were there? What is the equation to predict the population of rainbow unicorns for any year x ?

NOTES

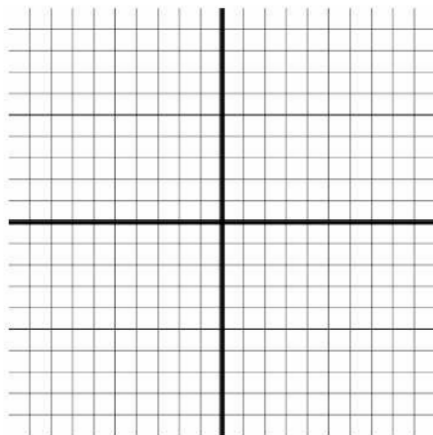
1. $y = 3^x$

x	y	(x,y)
2	9	(2,9)
1	3	(1,3)
0	1	(0,1)
-1	0.3	(-1,0.3)
-2	0.1	(-2,0.1)
-3	0.0	(-3,0.0)



3. $y = -2(4)^x$

x	y	(x, y)



4. $y = -2(.5)^x + 3$

x	y	(x, y)
-2	-5	$(-2, -5)$
-1	-1	$(-1, -1)$
0	1	$(0, 1)$
1	2	$(1, 2)$
2	2.5	$(2, 2.5)$

