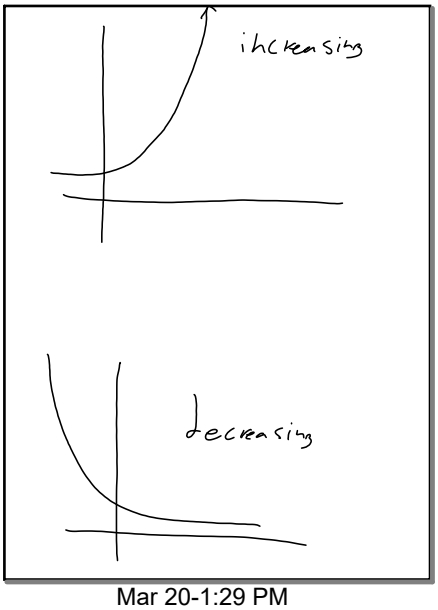


Mar 20-1:29 PM

THE BASIC EXPONENTIAL FUNCTION

$y = x^2$

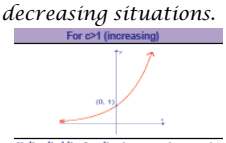
$y = c^x$

where "c" is a positive real number but is never = 1

		+1	+1	+1	
x	0	1	2	3	…
y	1	c	c^2	c^3	…
		×c	×c	×c	

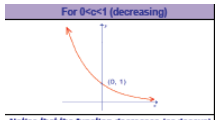
This situation describes exponentially increasing and decreasing situations.

For c>1 (increasing)



Notice that the function increases (or grows) at an ever increasing rate as the x value is increased

For 0<c<1 (decreasing)



Notice that the function decreases (or decays) at an ever decreasing rate as the x value is increased

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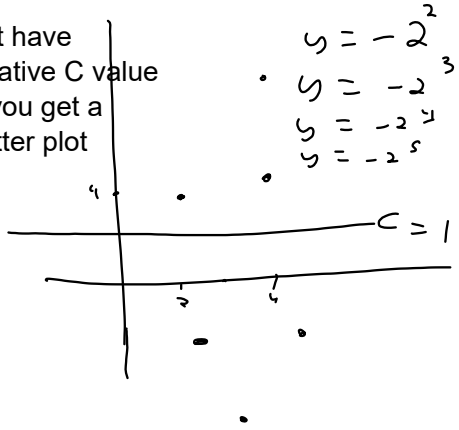
cant have negative C value as you get a scatter plot



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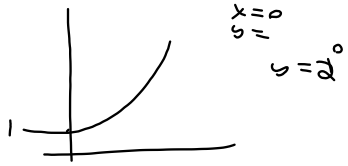
BASIC EXPONENTIAL FUNCTION

Any exponential function in the form $y = c^x$ passes through point (0,1)

Remember exponent laws: $r^0 = 1$

Therefore the y-intercept of the basic exponential is always 1



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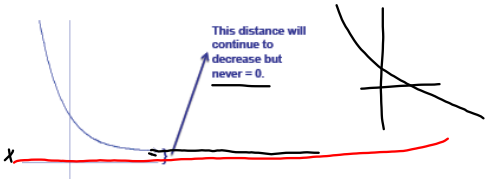
ASYMPTOTES

A line that gets continuously closer to a curve but they NEVER intersect



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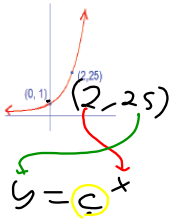
FINDING THE RULE



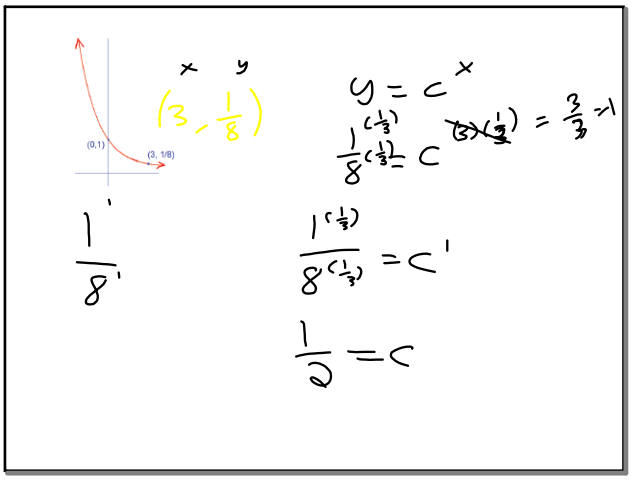
Steps:

1. *Find a point on the line (other than (0,1)*
2. *Input x and y values into rule*
3. *Solve for "c"*

$\sqrt{25} = \sqrt{c^2}$

$5 = c$

Mar 12-2:03 PM



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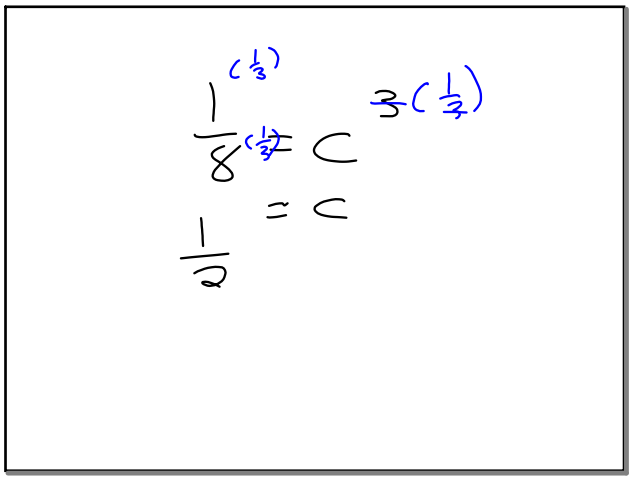

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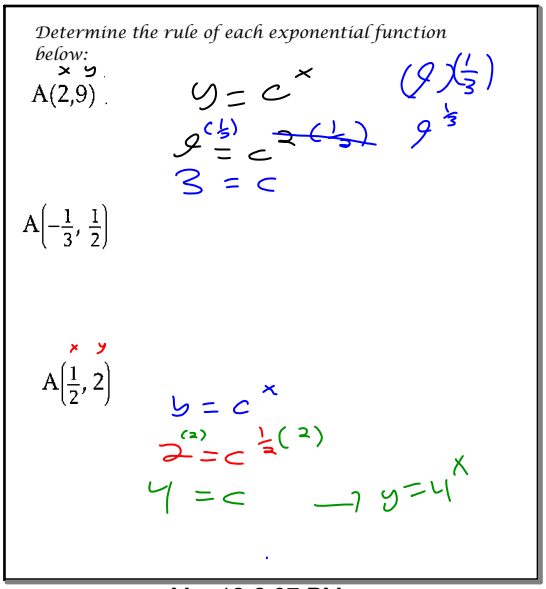
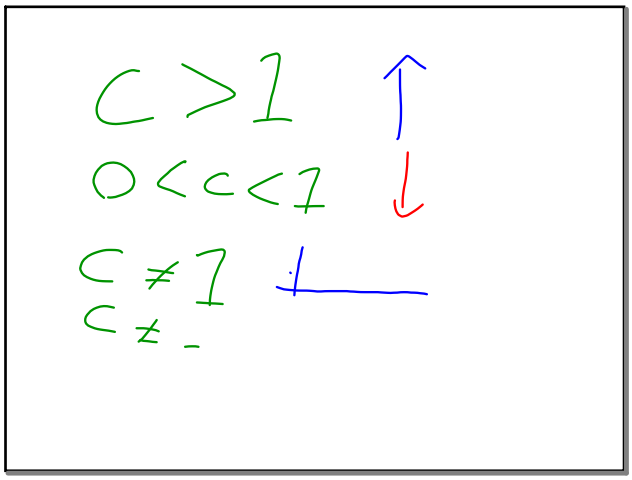


Mar 12-2:07 PM



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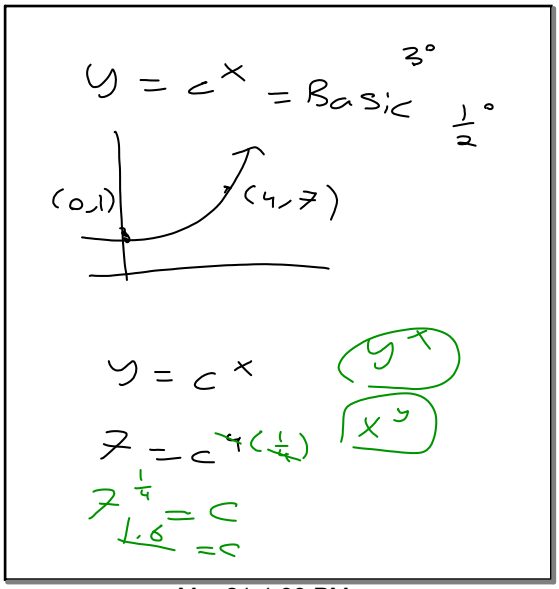
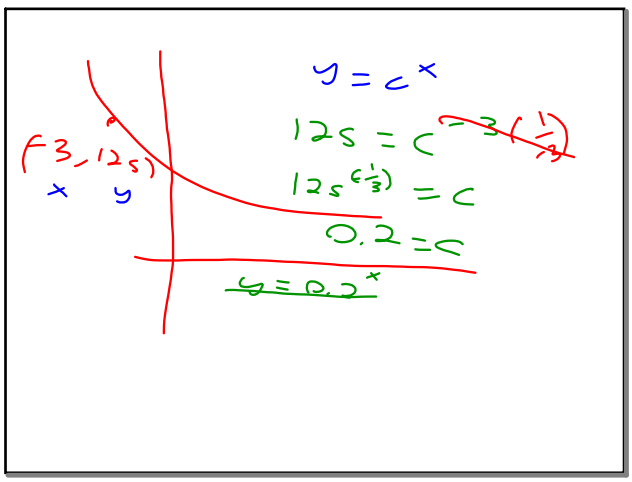


Mar 21-1:33 PM



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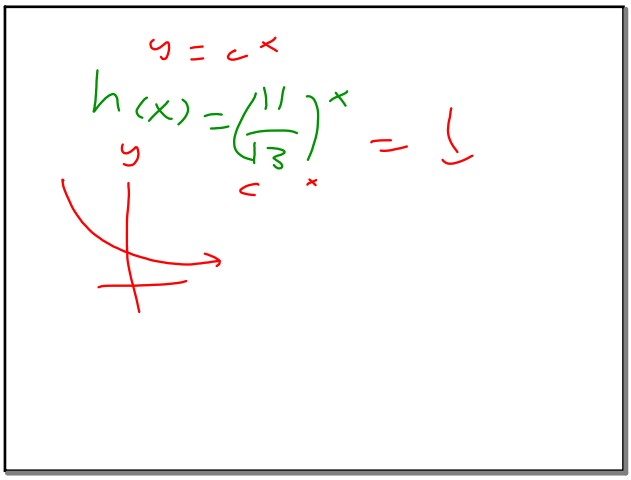

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