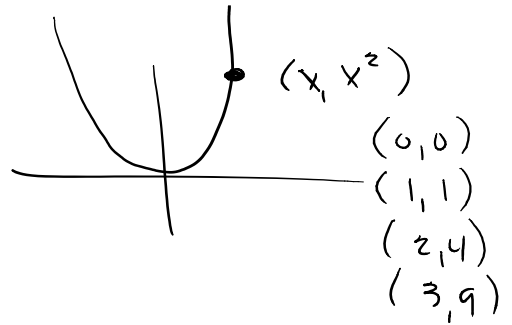


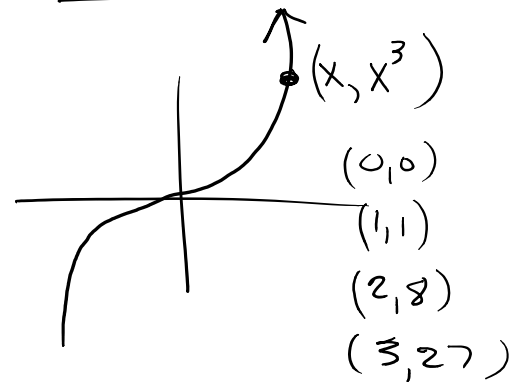
Graphing Exponentials

Thursday, January 25, 2018 11:03 AM

Old : $y = x^2$



$y = x^3$



New:

$y = 2^x$

$(-1, \frac{1}{2})$

$(-2, \frac{1}{4})$

$2^{-2} = \frac{1}{2^2} = \frac{1}{4}$

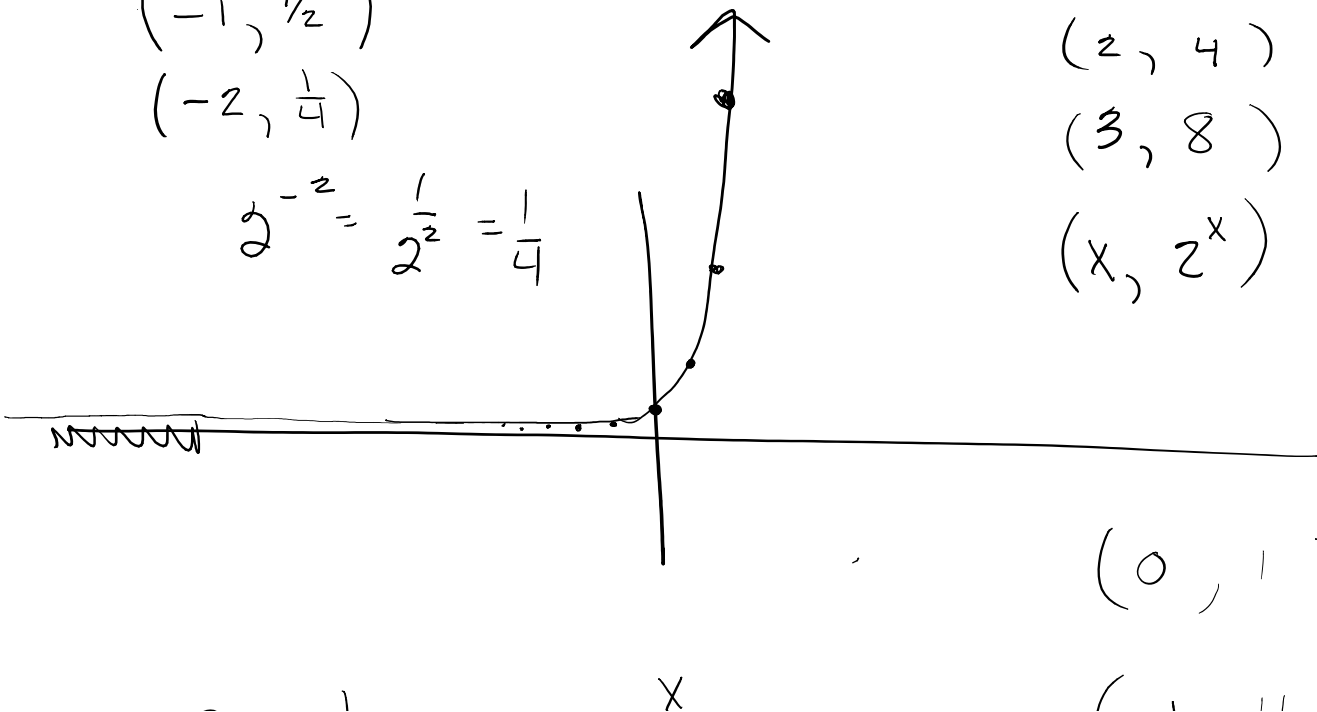
$(0, 1)$

$(1, 2)$

$(2, 4)$

$(3, 8)$

$(x, 2^x)$



graph $y = 4^x$

$$\left(-1, \frac{1}{4}\right)$$

$$\left(-2, \frac{1}{16}\right)$$

$$\left(-3, \frac{1}{64}\right)$$

$$\left(-4, \frac{1}{256}\right)$$

$$(1, 4)$$

$$(2, 16)$$

$$(3, 64)$$

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

$$(0, 1)$$

$$\left(1, \frac{1}{2}\right)$$

$$\left(2, \frac{1}{4}\right)$$

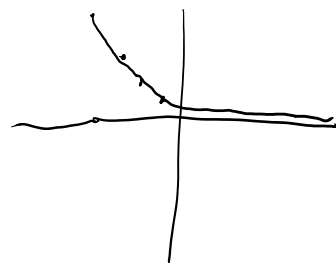
$$\left(3, \frac{1}{8}\right)$$

$$(-1, +2)$$

$$(-2, +4)$$

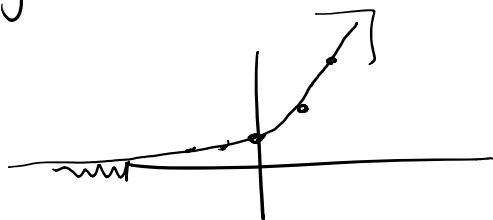
$$(-3, +8)$$

$$(-4, +16)$$

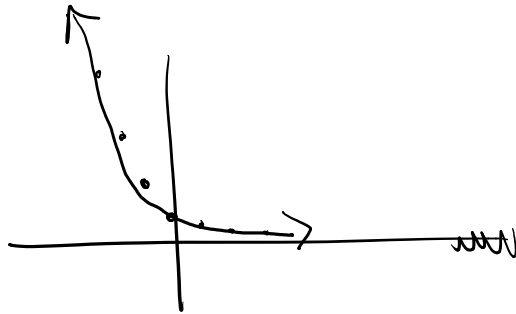


Takeaway:

$$y = a^x \quad a > 1$$



$$y = a^x \quad 0 < a < 1$$



$$2^y = x$$

x	y
1	0
2	1
$\frac{1}{2}$	-1
4	2
$\frac{1}{4}$	-2

Start.

