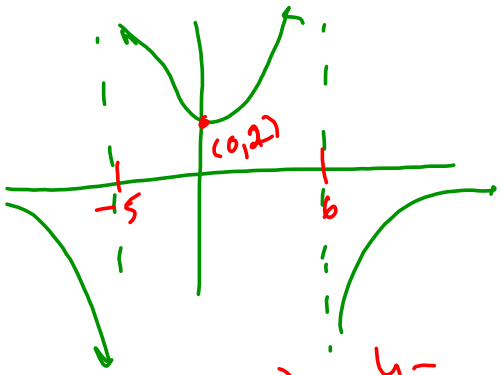


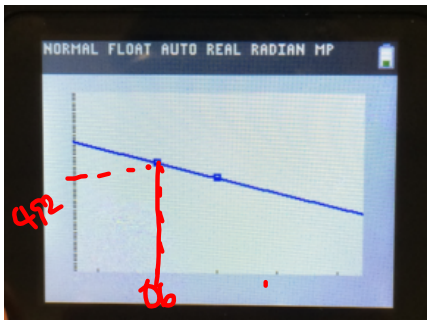
Point (0,2)

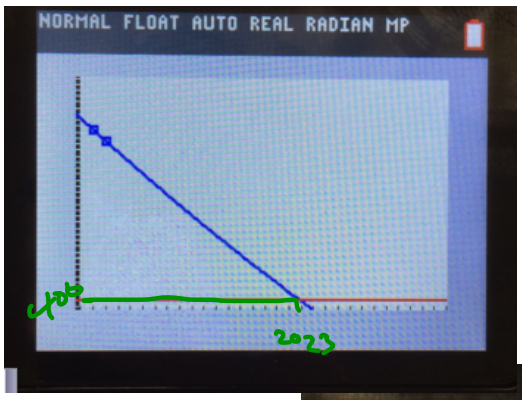
$$y = \frac{a}{(x+5)(x-6)}$$

$$2 = \frac{a}{(5)(-6)}$$

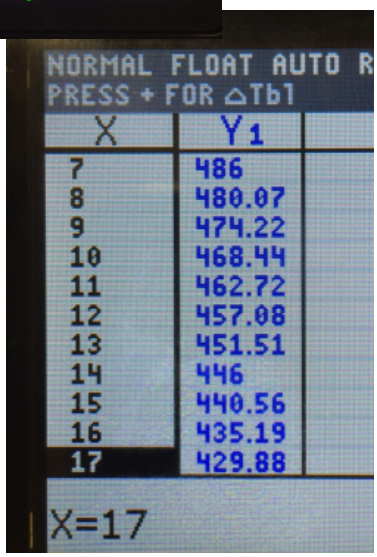
$$-60 = a$$

$$y = \frac{-60}{(x+5)(x-6)}$$



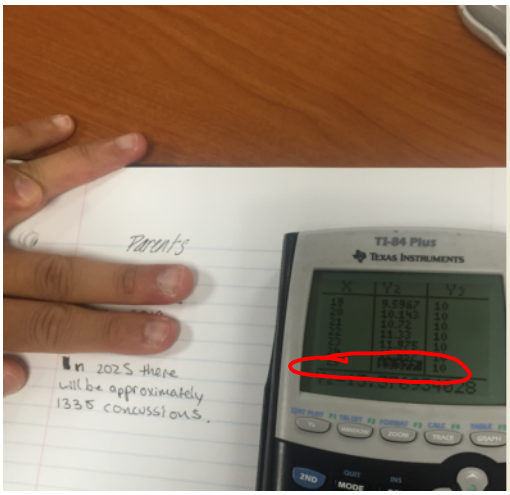


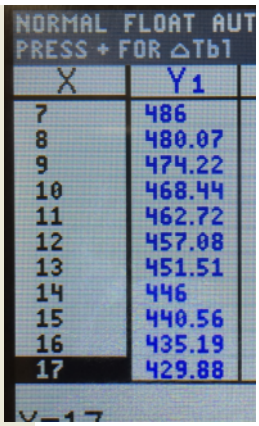
exponential decay



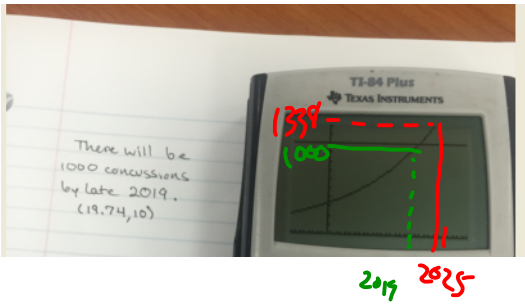
School Board

In the year 2006 there were 492 recorded concussions and according to our regression there is a steady decrease leading to 400 concussions in the year 2023.





exponential growth

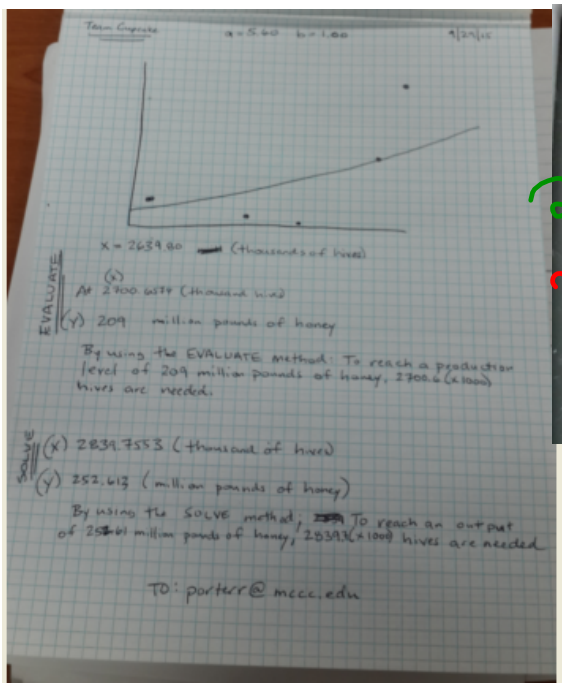


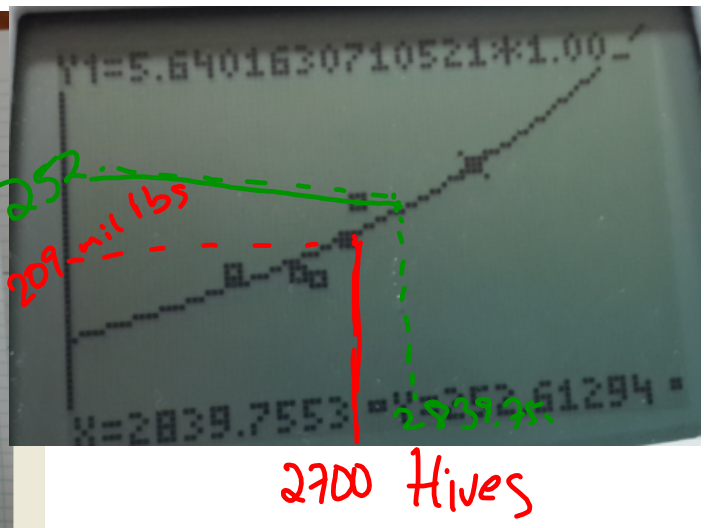
y_1 = regress

y_2 = 500 (Adjust Window)

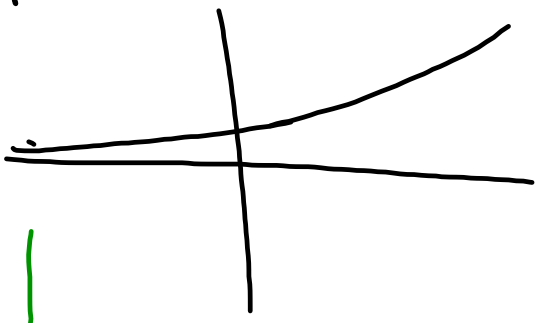
Calc 5 : Intersect

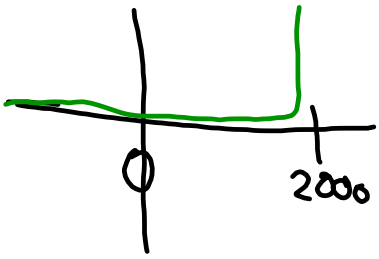
<enter><enter><enter>


Team Cupcake
a=5.60 b=1.00
9/29/15
x = 2639.80 (thousands of hives)
EVALUATE
(x)
At 2700.6574 (thousand hives)
(y) 209 million pounds of honey
By using the EVALUATE method: To reach a production level of 209 million pounds of honey, 2700.6 (x1000) hives are needed.
SOLVE
(x) 2839.7553 (thousand of hives)
(y) 252.613 (million pounds of honey)
By using the SOLVE method, To reach an output of 252.61 million pounds of honey, 2839.7 (x1000) hives are needed
TO: porterr@mccc.edu


Y1=5.6401630710521*1.00
252
209 mil lbs
X=2839.7553
Y=252.61294
2700 Hives

Exponential Growth



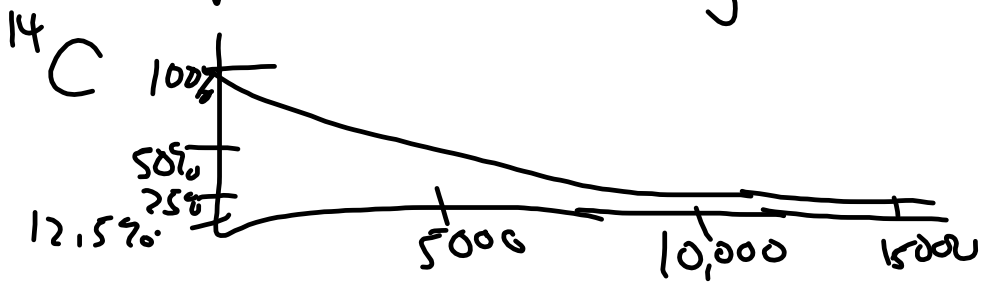


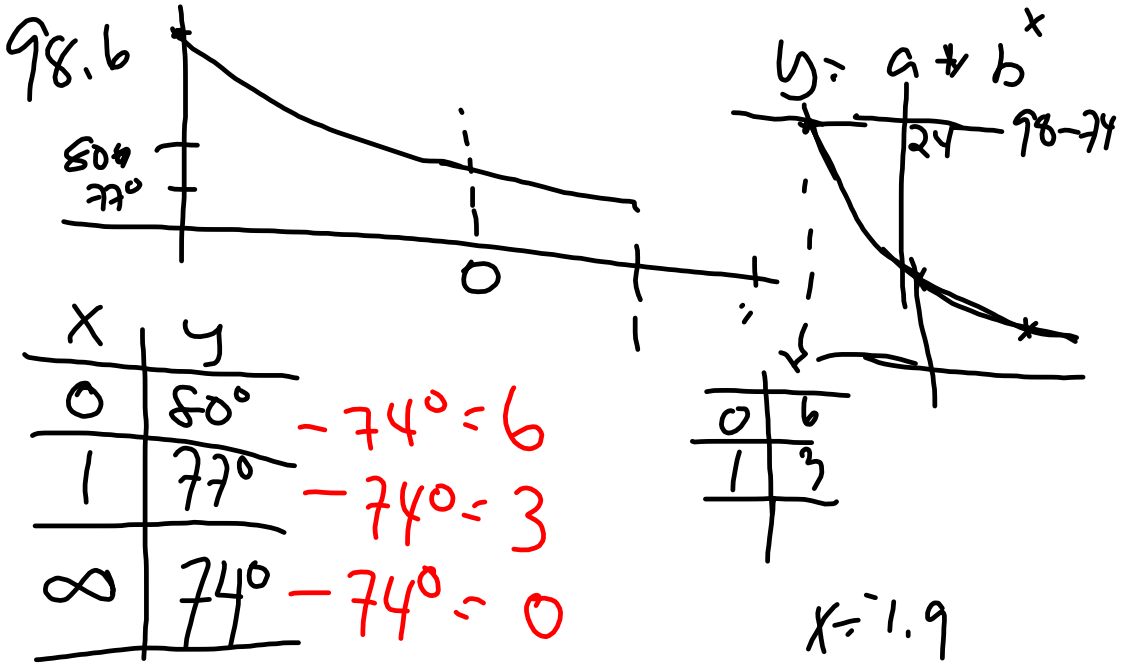
5% interest

$\$100(1.05) = \$105$

$100(1.05)^{13} = 200.$

Exponential Decay





x	y
0	80°
1	77°
∞	74°

$-74° = 6$

$-74° = 3$

$-74° = 0$

0	6
1	3

Transformation of Functions

Person --------> Werewolf

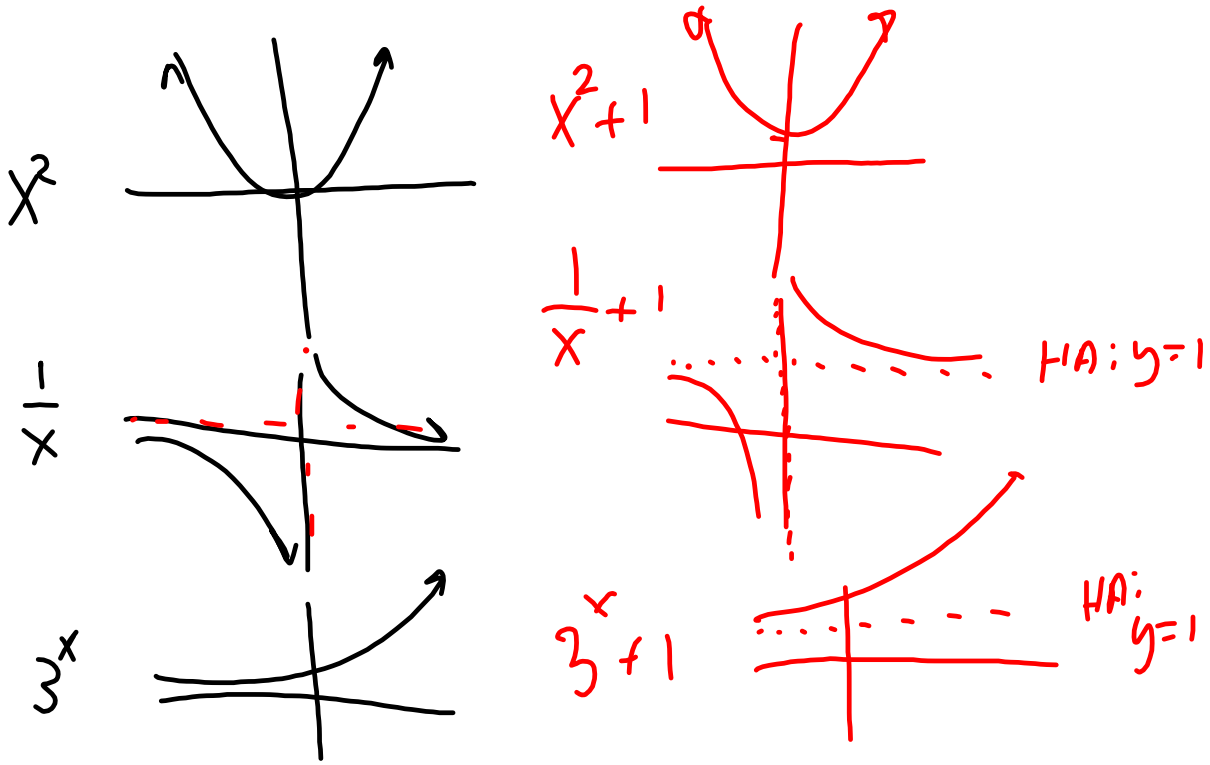
Parent Functions:

$f(x) = x^2$

$g(x) = 1 / x$

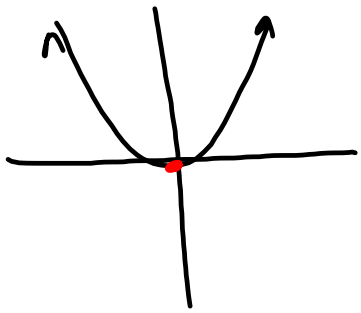
$h(x) = 1.2^x$

	Inside	Outside
+	Left	Raise
−	Right	Lower
2, 3, 4.. $\times 1^+$	"Smush"	Stretch
½, ⅓, .9 $\times 1^-$	"pull"	Shrink
−	Reflects y-axis	Reflects x-axis

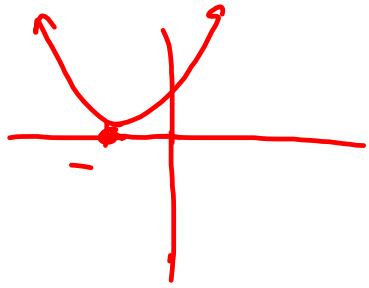


Left by 1

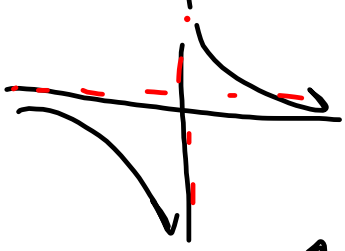
x^2



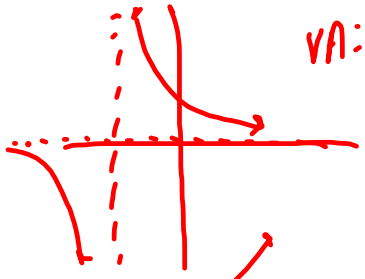
$(x+1)^2$



$\frac{1}{x}$

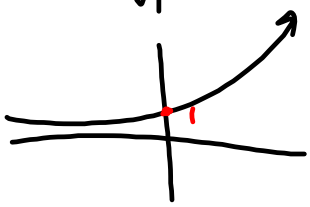


$\frac{1}{x+1}$



VA: $x=-1$

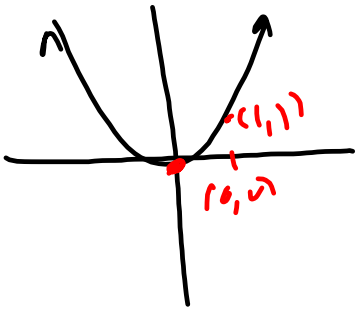
3^x



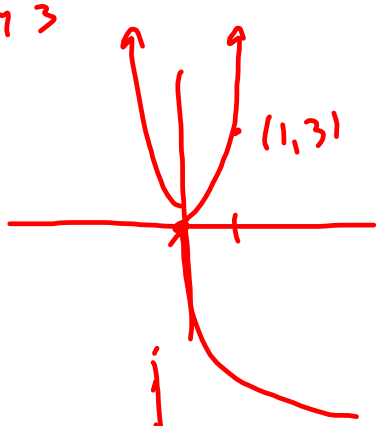
3^{x+1}

STRETCH BY 3

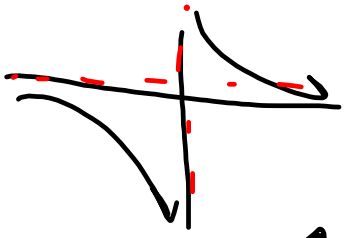
x^2



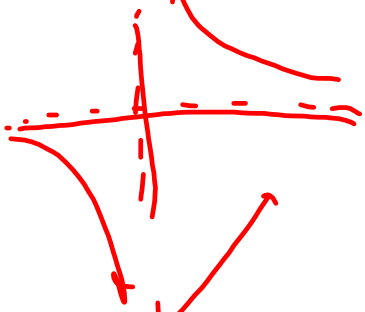
$3x^2$



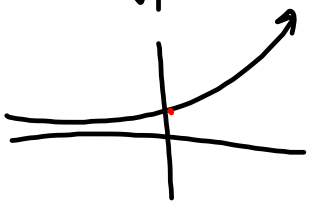
$\frac{1}{x}$



$\frac{3}{x}$

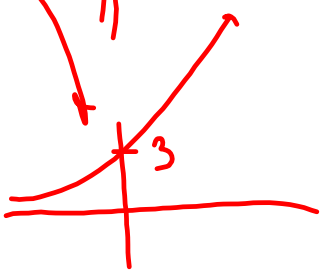


3^x



$3^1 \cdot 3^x$

3^{x+1}



Ex $3(x-1)^2+7$ Vertex $(1,7)$

Graph: Parent: x^2

Order:

(PEMDAS) -1 Inside Right by 1

3 Outside Stretch

7 Outside Up 7

3^x $3\cdot 3^{x-1}+7$

HA: $y=7$