

Piecewise Function DBA (Task)

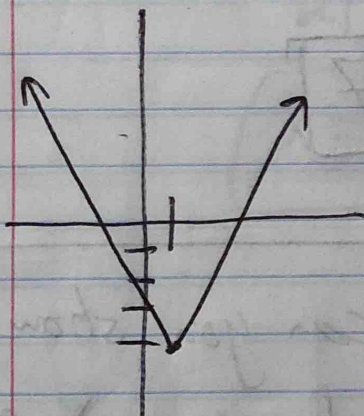
- * Graph each of the 4 functions, making sure that each of your graphs have something that exists in each of the different shaded regions.

For instance for graph 1: $f(x) = a|x-h|+k$

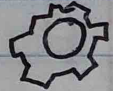
Example: $y = 2|x-1| - 4$

** choose relatively small numbers*

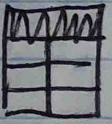
- * you can graph using your graphing calculator or go to [Desmos.com](https://www.desmos.com) → start graphing



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

* click on circle gear 

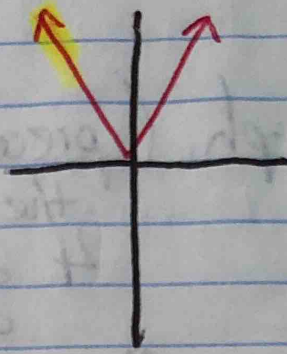
followed by

Table Icon 

- * you can enter new data point in desmos if you want to find more ordered pairs.

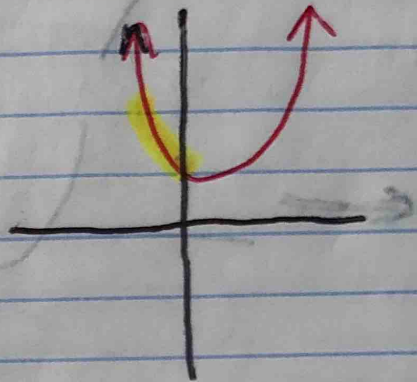
1) Absolute value function

$$y = \underline{a}|x - \underline{h}| + \underline{k}$$



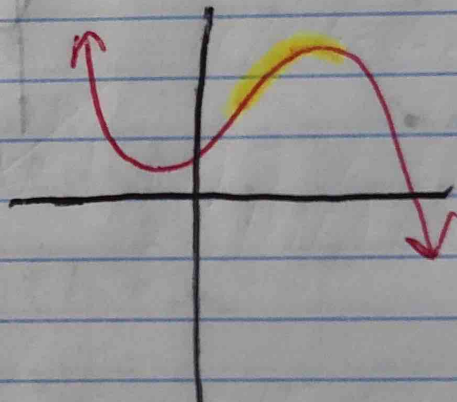
2) Quadratic function

$$y = \underline{a}(x - \underline{h})^2 + \underline{k}$$



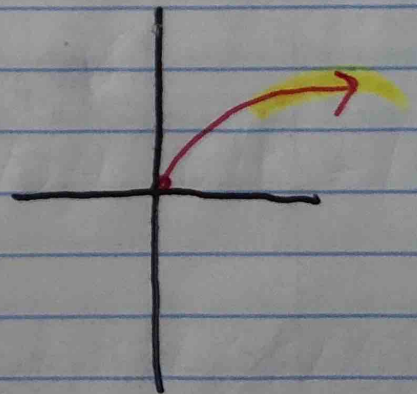
3) Cubic function

$$y = \underline{a}x^3 + \underline{b}x^2 + \underline{c}x + \underline{d}$$



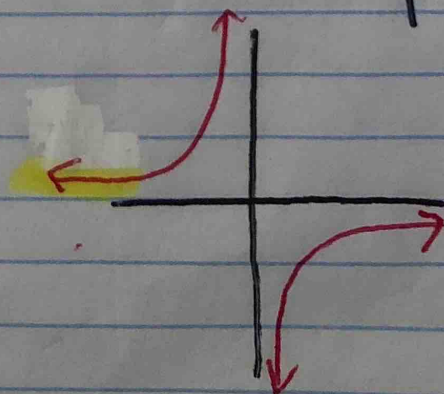
4) Radical function

$$y = \underline{a}\sqrt{x - \underline{h}} + \underline{k}$$



5) Rational Function

$$y = \frac{\underline{a}}{x - \underline{h}} + \underline{k}$$



5th graph (piecewise function: combination of the separate parts of the previous 4 graphs put together)

