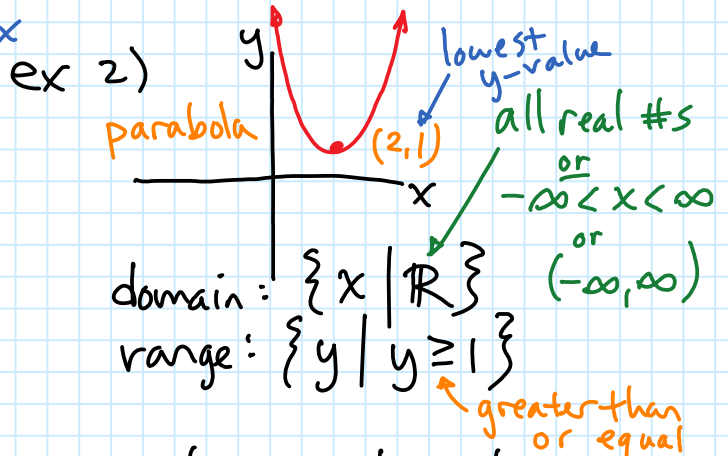
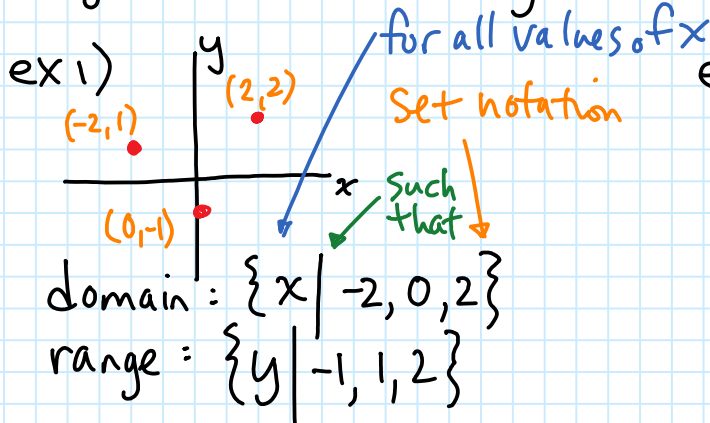


Domain/Range/Transformations of Absolute Value

Tuesday, August 13, 2019 10:56 AM

Domain → set of all x values of the function

Range → set of all y values of the function



Absolute Value - distance from zero on the number line
positive



$|-1| = 1$ unit from zero

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

ex 3) Graph $y = -|x-1| + 4$

$y = a|x-h| + k$

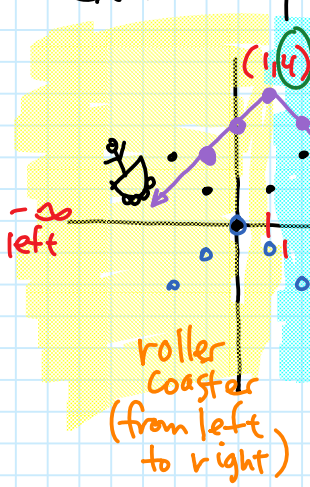
a: -1 → vert reflection
h: 1 → shift right
k: 4 → shift up

domain: $\{x \mid \mathbb{R}\}$

range: $\{y \mid y \leq 4\}$ or $-\infty < x \leq 4$ or $(-\infty, 4]$

increasing: $\{x \mid x < 1\}$ or $-\infty < x < 1$ or $(-\infty, 1)$

decreasing: $\{x \mid x > 1\}$ or $1 < x < \infty$ or $(1, \infty)$



parent graph

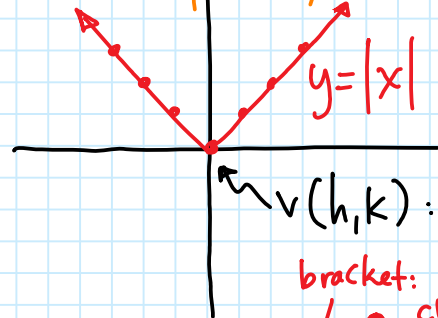
$y = a|x-h| + k$

vert stretch/compression/reflection

shift left/right

shift up/down

Who's your Daddy?



$v(h, k) : v(0, 0)$

bracket: closed circle

parenthesis: open circle

⊕ open circle