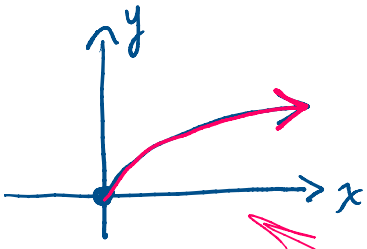
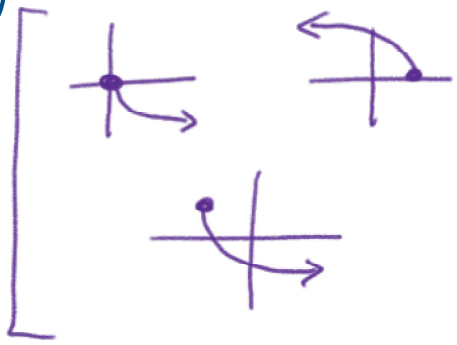
A radical function has the form $y = \sqrt{f(x)}$

eg. $y = \sqrt{2x+5}$, $y = \sqrt{-3x-4}$

The basic radical function, $y = \sqrt{x}$, has a graph





the square root of a number is only defined for non-negative numbers.

So, the domain is $x \geq 0$
and range is $y \geq 0$] $y = \sqrt{x}$

A radical equation has at least one radical with a radicand variable.

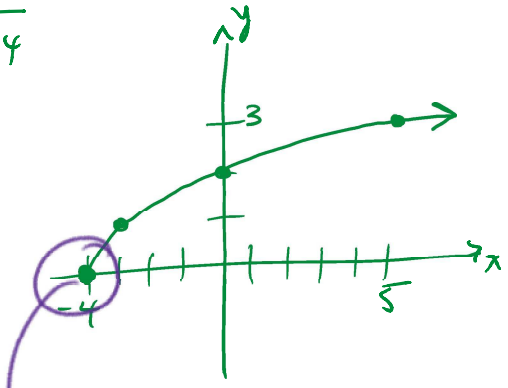
Solving a radical equation is finding the root or x-intercept or zero of the function

ex.1 $y = \sqrt{x+4}$ $x|_{u=\sqrt{x+4}}$

ex. 1 $y = \sqrt{x+4}$

Domain: $x+4 \geq 0$, $x \geq -4$

x	$y = \sqrt{x+4}$
-4	0
-3	1
0	2
5	3



Range $y \geq 0$

root
zero
x int
} $x = -4$

ex. 2 $\sqrt{x-2} = 1$ → can graph as "2" functions OR "1" function

→ "2" – solution is the x value of the point of intersection

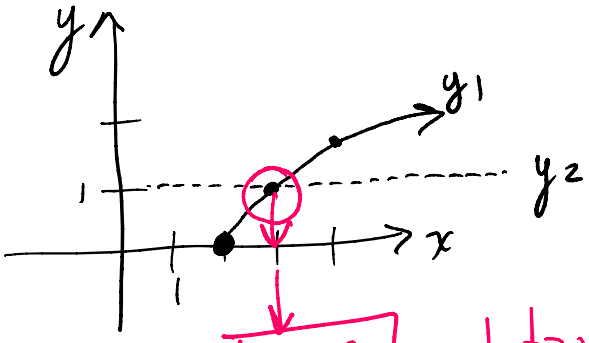
graphing as two functions

$y_1 = \sqrt{x-2}$ → $x-2 \geq 0$, $x \geq 2$

x	y
2	0
3	1
4	$\sqrt{2} = 1.4$

$y_2 = 1$

x	y
2	1
3	1
4	1



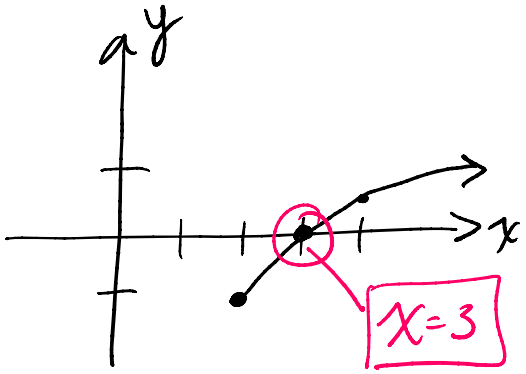
$x = 3$ solution

on a single equation

as a single equation

$y = \sqrt{x-2} - 1$

x	y
2	−1
3	0
4	0.4...



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