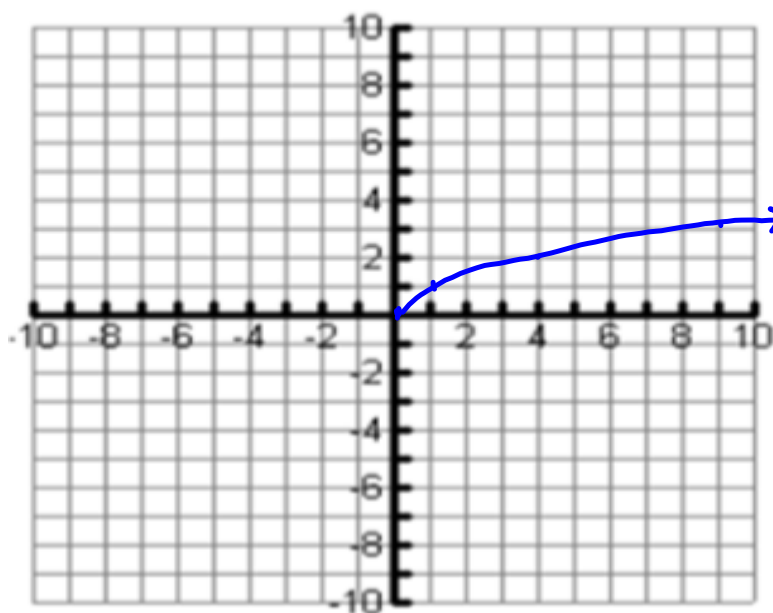


Kahoot: Transformations of Absolute Value & Quadratics

Notes: Radical Function Transformations

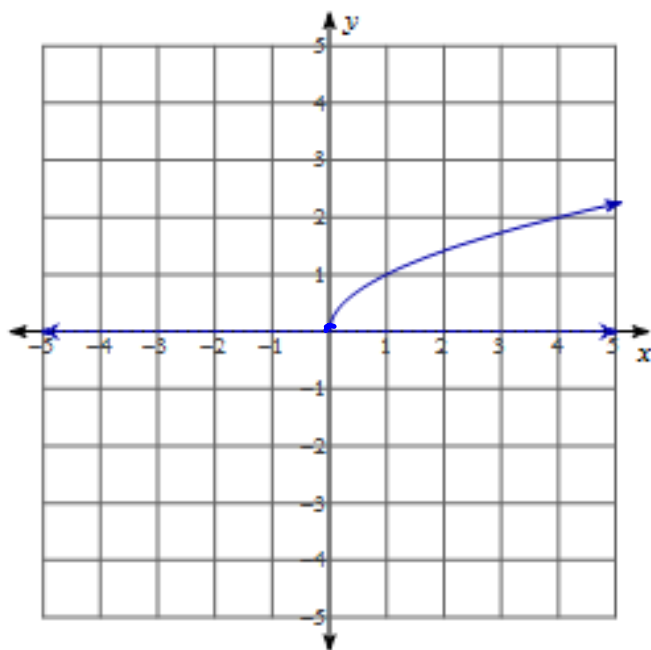
Square Root Functions

Parent function: $y = \sqrt{x}$



x	P(x)
0	0
1	1
4	2
9	3

Parent Function



Who is this?

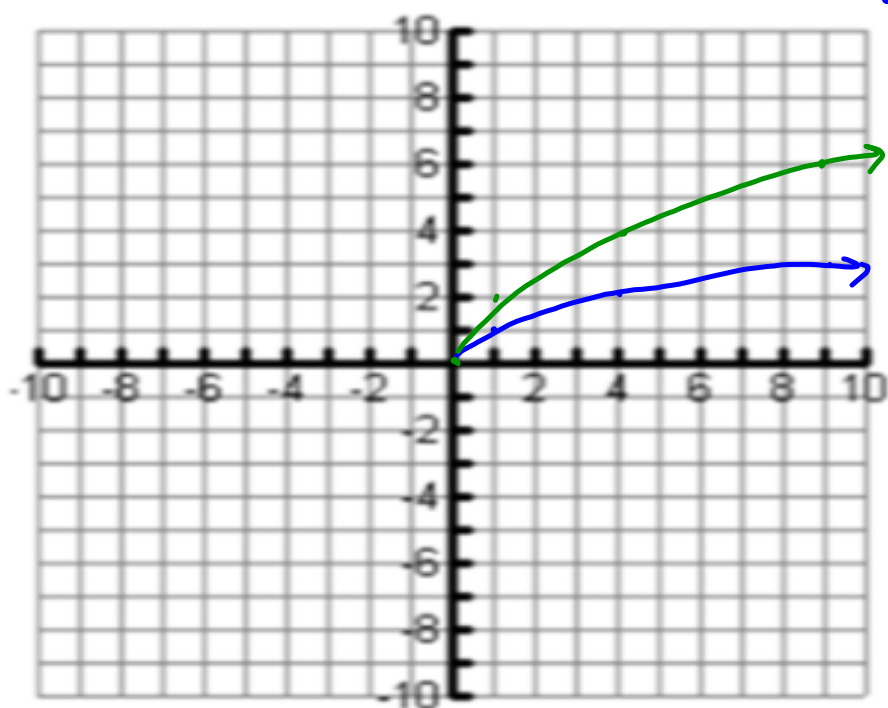
$$y = \sqrt{x}$$

Domain
 $[0, +\infty)$

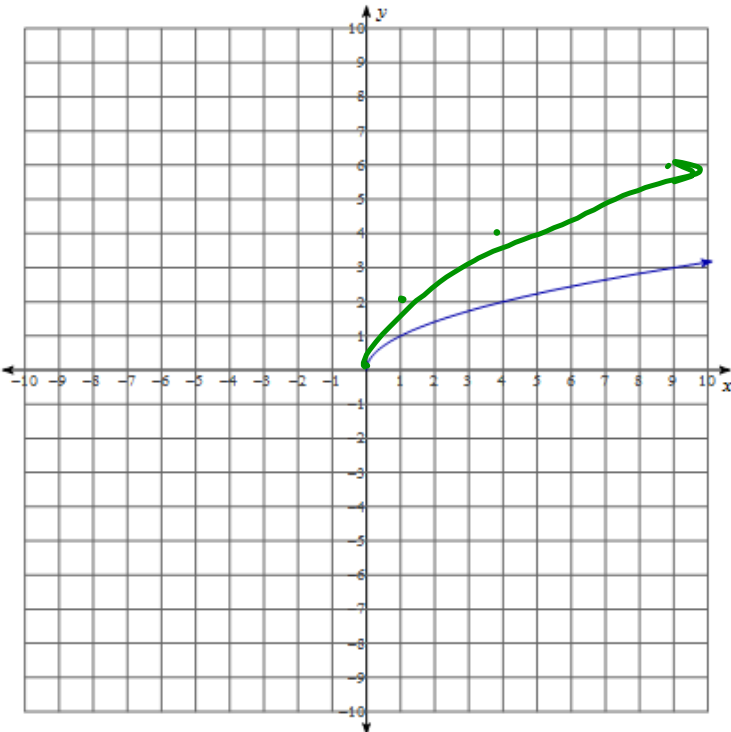
Range
 $[0, +\infty)$

$$f(x) = 2\sqrt{x}$$

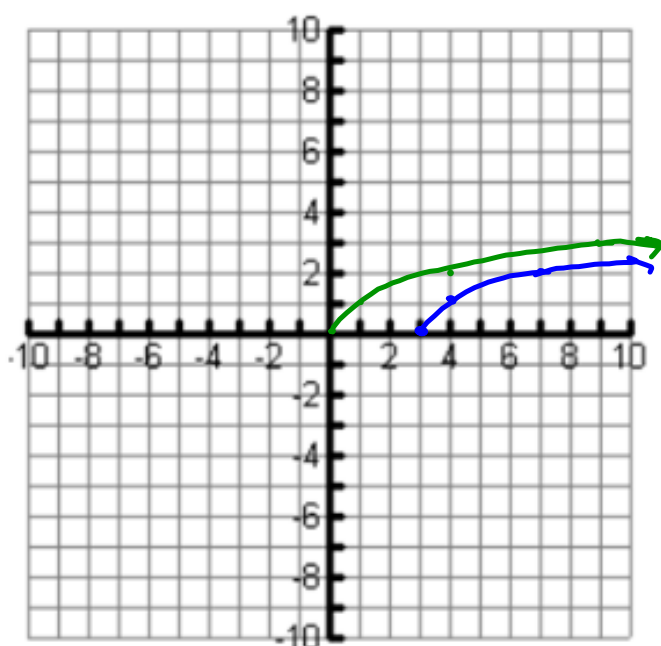
vertical
 $a > 1$ stretch
 $0 < a < 1$ shrink



x	$P(x)$	$2(y)$
0	0 (→)	0
1	1 (→)	2
4	2 (→)	4
9	3 (→)	6



$$f(x) = \sqrt{x-3}$$

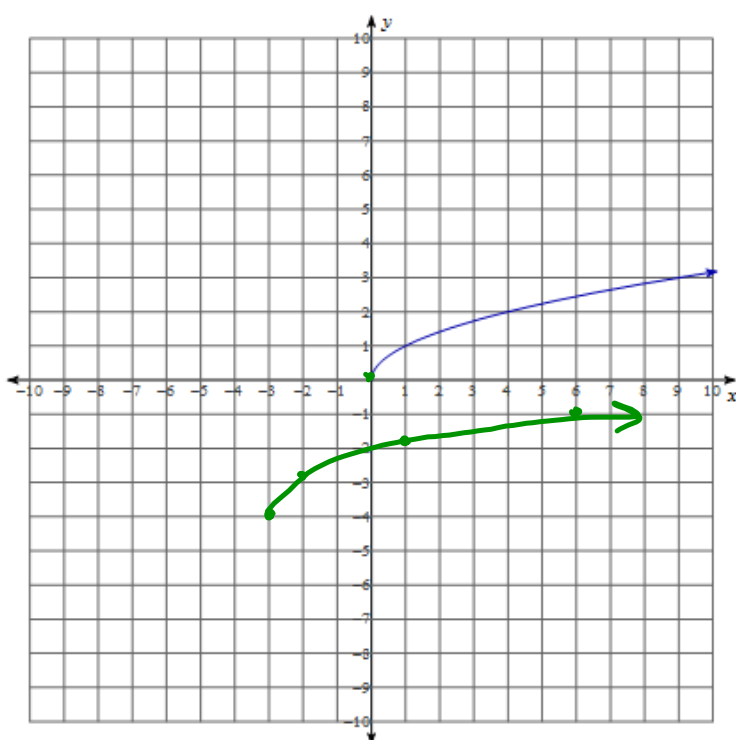


$$\sqrt{x-h}$$

$(x-h)$: Right
 $(x+h)$: Left

x	$P(x)$
0	0
1	1
4	2
9	3

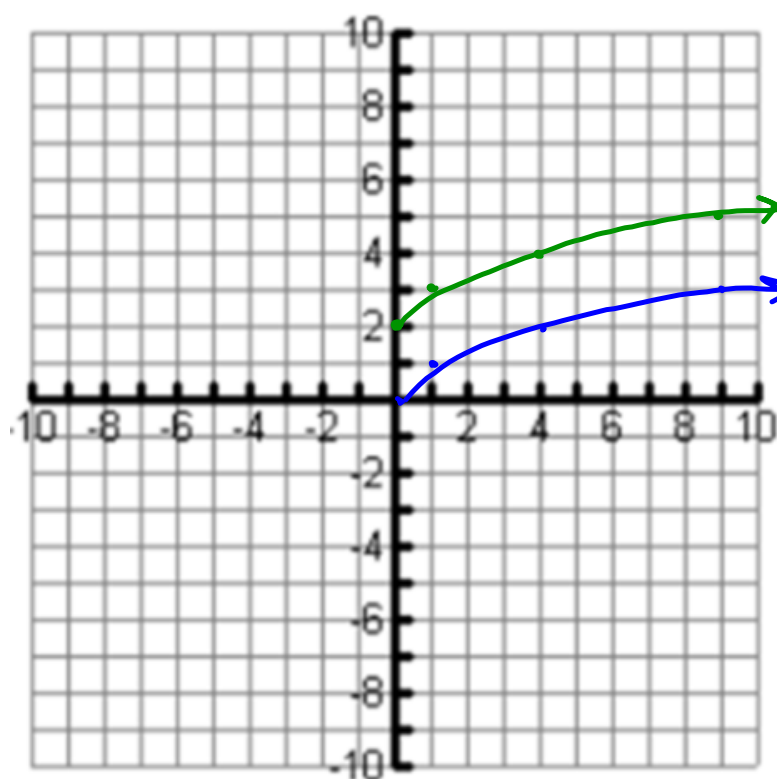
$$\sqrt{x+3} - 4$$



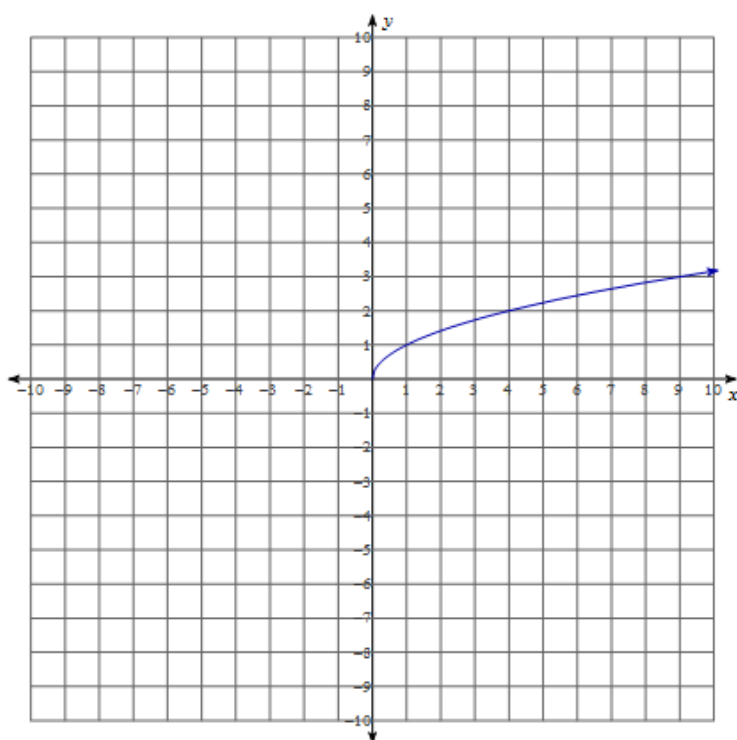
	Parent Function $y = \sqrt{x}$
0	0
1	1
4	2
9	3
	Domain $[-3, +\infty)$
	Range $[-4, +\infty)$
	Horizontal shift Left 3
	Vertical shift Down 4
	Vertical stretch None

$$f(x) = \sqrt{x} + 2$$

$\sqrt{x} + k$: up
 $\sqrt{x} - k$: down



x	$P(x)$
0	0 + 2 = 2
1	1 + 2 = 3
4	2 + 2 = 4
9	3 + 2 = 5



$$f(x) = \sqrt{x} + 2$$

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

Summarize what a does
to the graph.

Summarize what h does to the graph.

Summarize what k does to the graph.

