3-4 Graphing Radical Functions

Objectives:

3-4a: I can graph radical functions by hand.

3-4b: I can identify the transformations of a radical function.

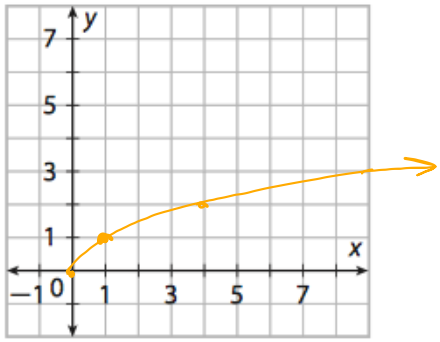
3-4c: I can write the equation of a radical function from a graph.

Mar 12-10:11 PM

Graph the following and state the domain, range, and end behavior

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

x	$f(x) = \sqrt{x}$
0	0
1	1
4	2
9	3



Domain: $[0, \infty)$

Range: $[0, \infty)$

End Behavior

$x \to 0, y \to 0$

$x \to \infty, y \to \infty$

Mar 12-10:12 PM

Transformation Form:

$$f(x) = a(x-h)+k$$

Transformation Form:

$$f(x) = a\sqrt{(x-h)}+k$$

	Vertical (Range)	Horizontal (Domain)
Shift		
Stretch		-----
Reflection		-----

Domain changes
Range changes

Aug 11-8:51 AM

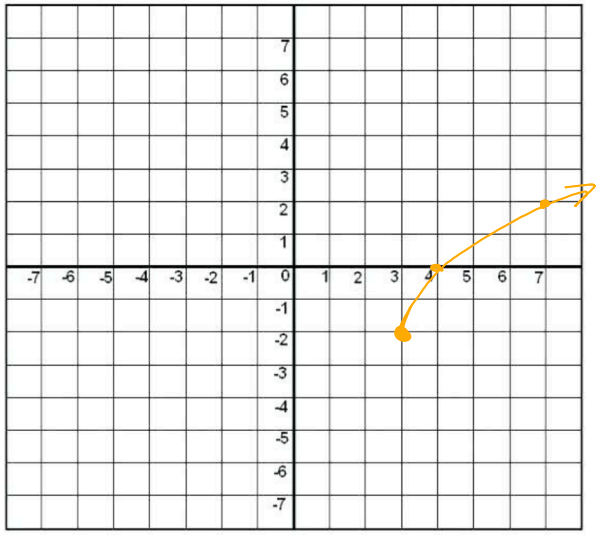
Graph, state the transformations, and find the Domain and Range

$$g(x)=2\sqrt{x-3}-2$$

right 3
down
v.s. of 2

Domain:

Range:



Transformations:

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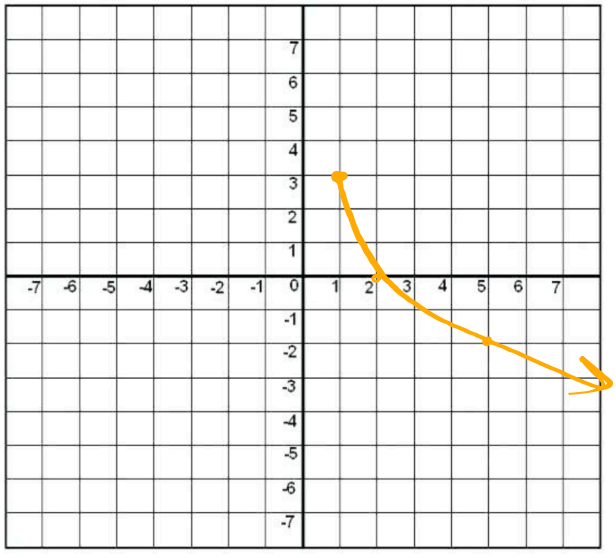
Graph, state the transformations, and find the Domain and Range

$$f(x)=-3\sqrt{x-1}+3$$

Domain:

Range:

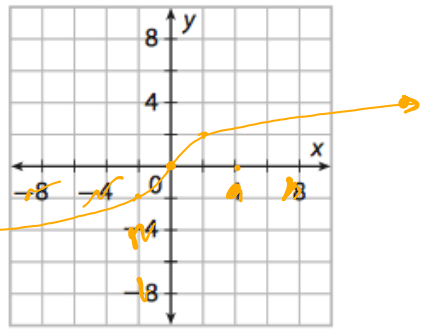


Transformations:

Mar 12-10:19 PM

Graph the following and state the domain, range, and end behavior $f(x) = \sqrt[3]{x}$

x	y	x, y
−8	−2	
−1	−1	
0	0	
1	1	
8	2	



Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

End Behavior

$x \to -\infty, y \to -\infty$

$x \to \infty, y \to \infty$

Mar 12-10:31 PM

Transformation Form:

$$f(x) = a\sqrt[3]{(x-h)}+k$$

	Vertical (Range)	Horizontal (Domain)
Shift		
Stretch		-----
Reflection		-----

Domain changes

Range changes

Aug 11-8:51 AM

Graph the following and state the transformations, domain and range.

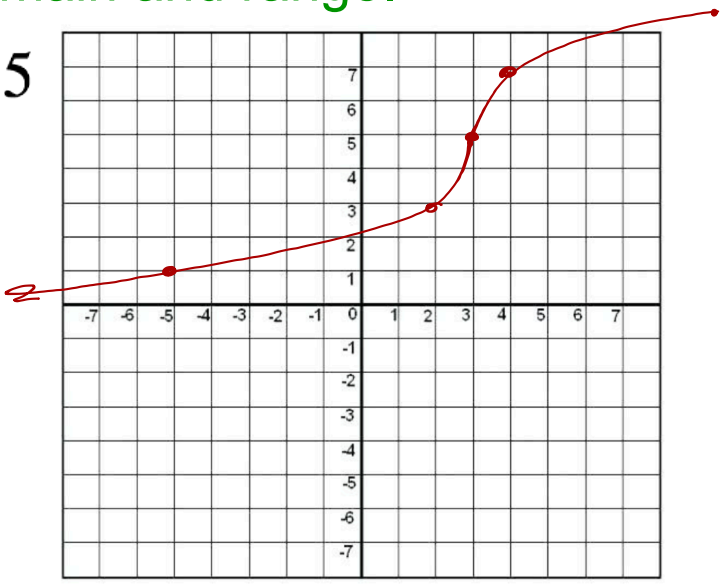
$$g(x) = 2\sqrt[3]{x-3}+5$$

right 3
up 5
v.s. of 2

Domain:

Range:

Transformations:



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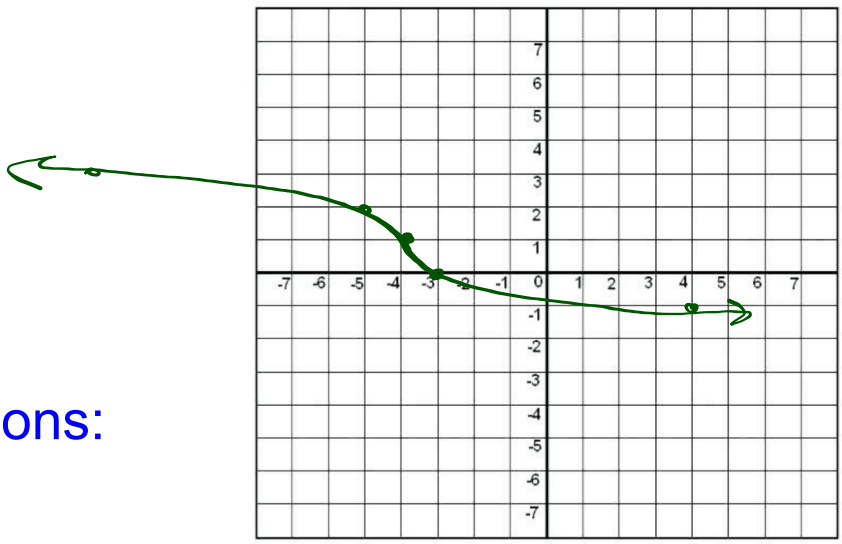
Graph the following and state the transformations, domain and range.

$$f(x) = -\sqrt[3]{x+4}+1$$

Domain:

Range:

Transformations:



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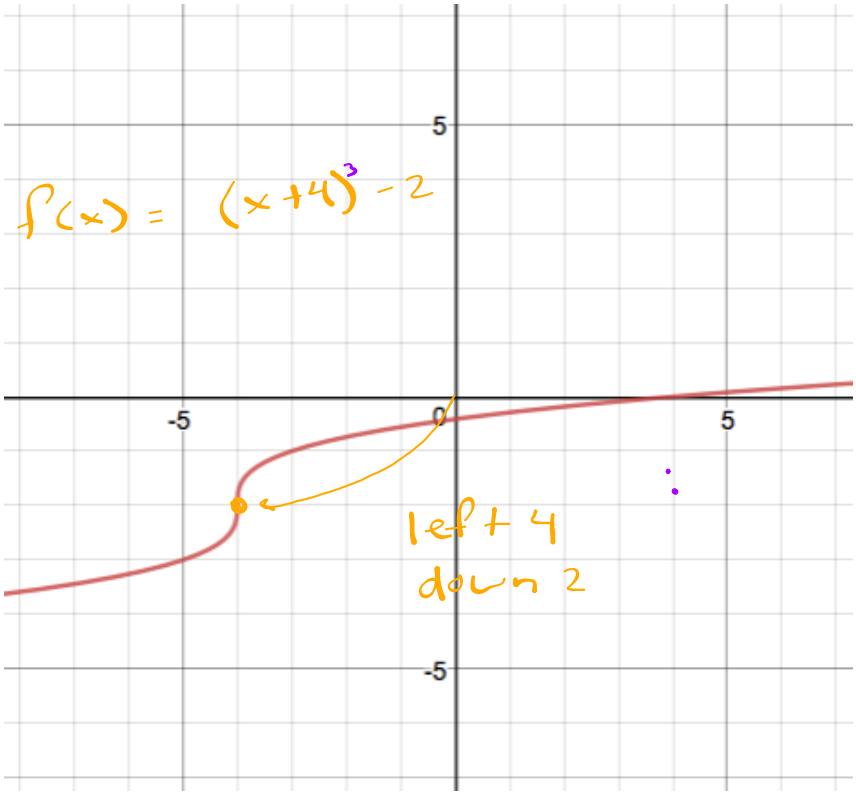
Write an equation to represent the following



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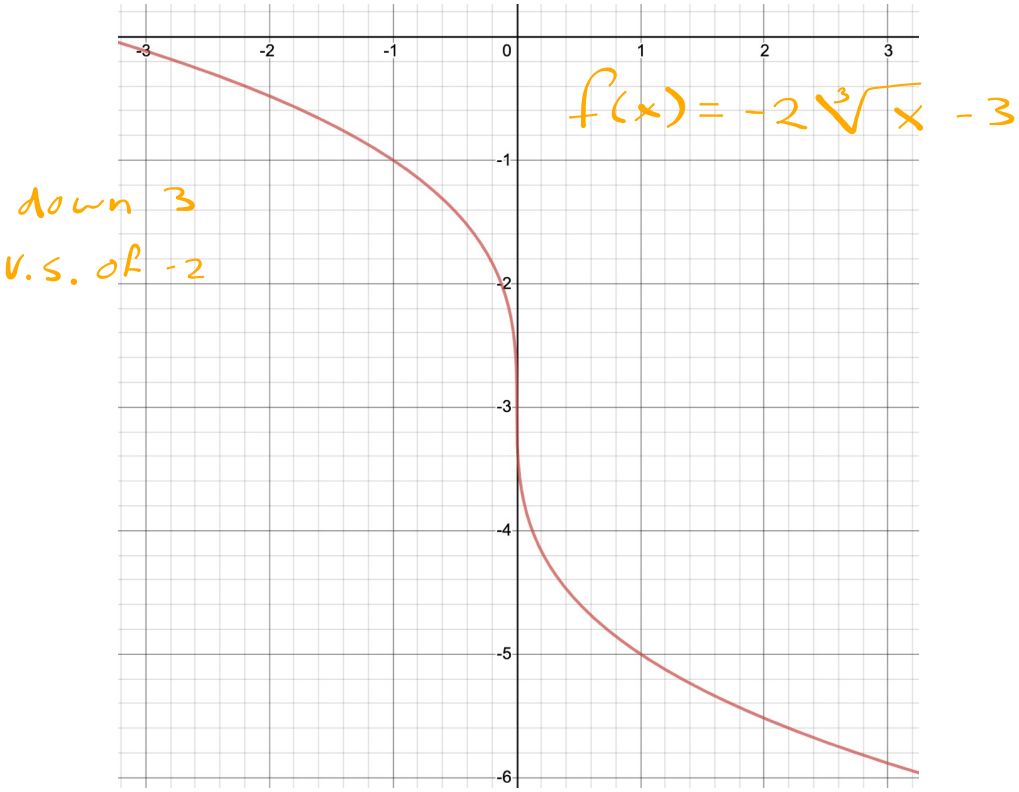
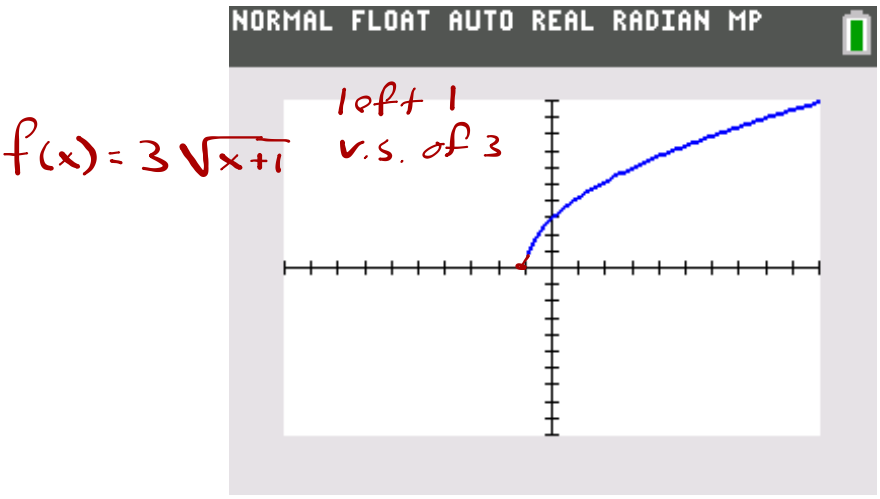
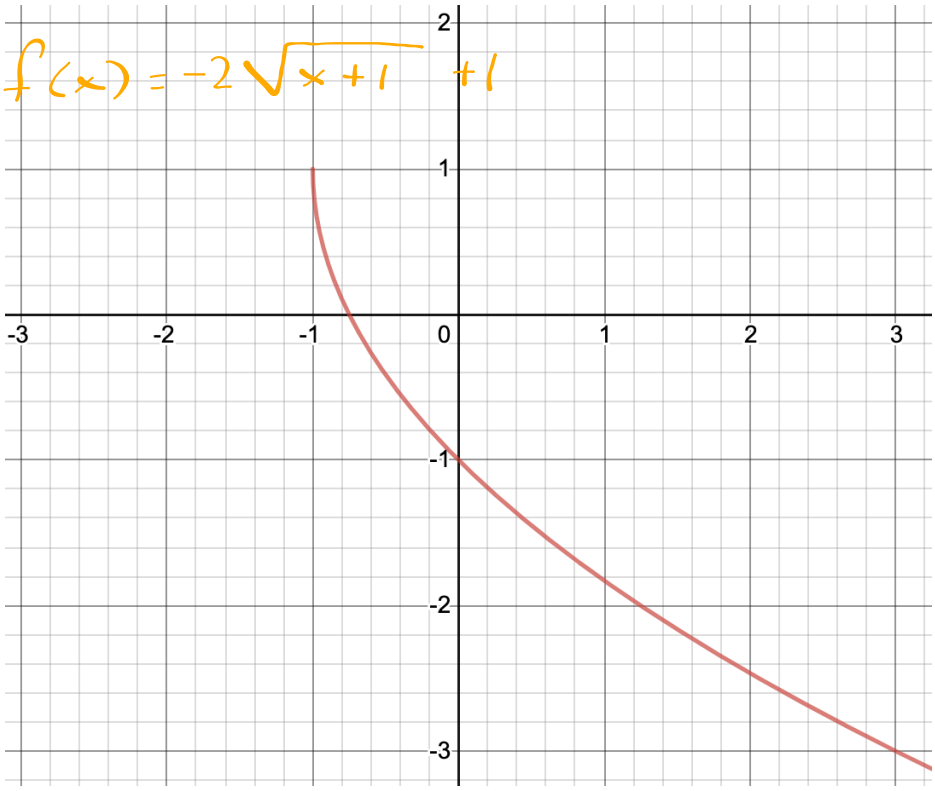


$$f(x) = -2\sqrt[3]{x} - 3$$

Write an equation to represent the following



Oct 1-12:17 PM



$$f(x) = -2\sqrt{(x+1)} + 1$$