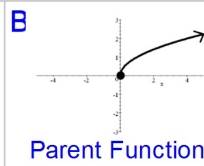
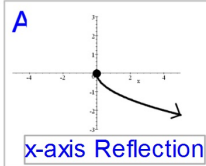


## Domain and Range of Square Root Functions:

Domain:  $x \geq 0$

Range:  $y \leq 0$

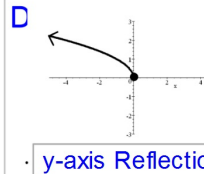
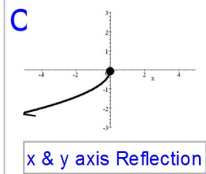


Domain:  $x \geq 0$

Range:  $y \geq 0$

Domain:  $x \leq 0$

Range:  $y \leq 0$



Domain:  $x \leq 0$

Range:  $y \geq 0$

Find the Domain and Range of each.

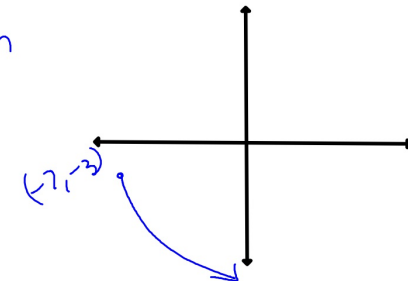
$$y = -5\sqrt{x+7} - 3$$

up side down  
7 left 3 down

Domain:  $x \geq -7$

Range:  $y \leq -3$

If you can make a sketch of the graph you can use it to find the Domain and Range:

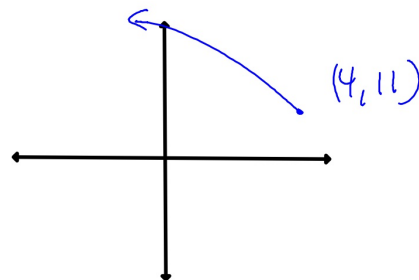


$$y = 2\sqrt{-(x-4)} + 11$$

4 left 11 up  
Backwards

Domain:  $x \leq 4$

Range:  $y \geq 11$

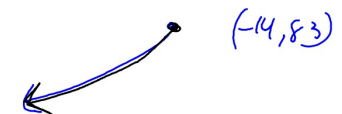


$$y = -7\sqrt{-(x+14)} - 83$$

14 left 83 down  
upside down & Backwards

D:  $x \leq -14$

R:  $y \leq -83$



Finding Domain and Range algebraically.

1.  $y = 2\sqrt{x+1} - 3$

Domain: Since we are not dealing with imaginary numbers, the radicand can't be negative.

To find the domain we write: Radicand  $\geq 0$  then solve for x

$$x + 1 \geq 0 \quad \rightarrow \quad x \geq -1$$

Range: To find the range make a table and input several values for x using the domain from above starting with -1. This result will tell you what the range is.

x	y
-1	-3
0	-1
3	1
8	3

This indicates that the range starts at -3 and INCREASES after that.

$$y \geq -3$$

You can now do Hwk #13

Practice Sheet Sec 7-8

This is the end of Chapter 7!!