UNIT 4 WORKSHEET 15 - RADICAL FUNCTIONS

Find the domain of each of the following radical functions using interval notation.

1) $f(x)=\sqrt{x+4}-2$ **2)** $f(x)=2\sqrt{4-x}+1$ **3)** $f(x)=\sqrt{2x+3}+1$

4) $f(x)=-\sqrt{x+5}-8$ **5)** $f(x)=\sqrt{2-x}+1$ **6)** $f(x)=2\sqrt{x+7}-5$

The range of a radical function in $f_{(x)}=a\sqrt{x-h}+k$ ***form can be found using the value of the "a" term, and the y value of the point of origin.***

If $a>0$***, the range of the function is*** $[k,\infty)$**.** ***If*** $a<0$***, the range of the function is*** $(-\infty,k]$**.**

Find the range for each of the following.

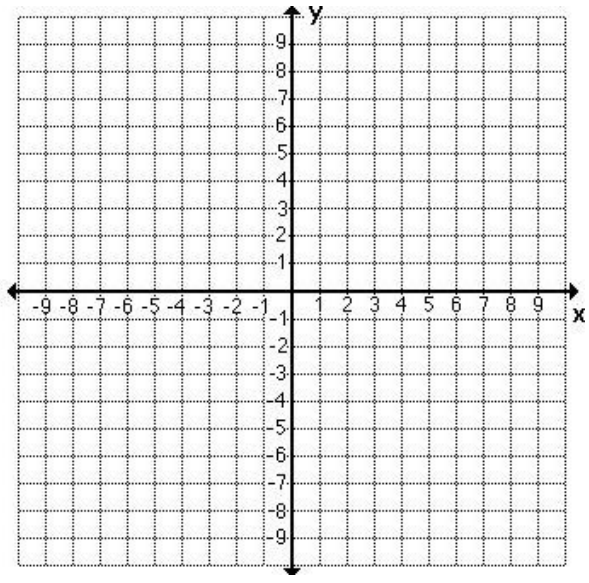
7) $f(x)=\sqrt{x+5}-3$ **8)** $f(x)=-\sqrt{x-3}+2$ **9)** $f(x)=2\sqrt{x-4}+3$ **10)** $f(x)=-3\sqrt{5-x}+6$

Find the point of origin for each of the following radical functions.

11) $f(x)=\sqrt{x+4}-2$ **12)** $f(x)=2\sqrt{4-x}+1$ **13)** $f(x)=\sqrt{x}-4$ **14)** $f(x)=-\sqrt{x-3}$

Graph each of the following radical functions. ***Complete the information to the right for each of the problems.***

15) $f(x)=\sqrt{x+3}+2$
16) $f(x)=-\sqrt{x-3}+1$
17) $f(x)=\sqrt{5-x}+2$
18) $f(x)=\sqrt{x+2}$
19) $f(x)=-\sqrt{-x}$
20) $f(x)=\sqrt{x+2}-2$



Point of Origin:

Y-intercept:

X-intercepts:

Range:

Domain: