MCR 3U **Fun, Fun, Fun with Functions!**

Complete the following tasks for each of the functions below:

1) state the basic function
2) create table of values for the basic function
3) determine the **mapping notation** that maps the basic function coordinates onto the image function
4) create a table of values for the image function
5) **GRAPH** the basic function and the image function on the same grid (use two different colours)
6) use your graphs to determine the **domain** and **range** of each of the image functions (use proper notation when stating the domain and range)

	IMAGE FUNCTION	
Example 1	$y=(x-4)^2+2$	$(x,y)\rightarrow(x+4,\ y+2)$
Example 2	$y=\frac{1}{2}(x+2)^3-3$	$(x,y)\rightarrow(x-2,\ \frac{1}{2}y-3)$
Example 3	$y=\sqrt{-\frac{1}{2}x-2}$ $\hookrightarrow y=\sqrt{-\frac{1}{2}(x+4)}$	$(x,y)\rightarrow(-2x-4,\ y)$
Example 4	$y=-\frac{1}{x}+2$	$(x,y)\rightarrow(x,\ -y+2)$
Example 5	$y=\lvert-2x+6\rvert+4$ $\hookrightarrow y=\lvert-2(x-3)\rvert+4$	$(x,y)\rightarrow(-\frac{1}{2}x+3,\ y+4)$
Example 6	$y=-(x-5)^2-3$	$(x,y)\rightarrow(x+5,\ -y-3)$

* keep your work neat, tidy and organized (follow the procedure we have been doing in class)