**TRANSFORMATIONS OF GRAPHS.**

Consider this general example of a function: we will call it ***y = f(x)***



**TRANSLATIONS:**

1. The new function ***y = f(x) + 3*** means: **MOVE UP 3**



2. The new function ***y = f(x)*** – ***4*** means: **MOVE DOWN 4**



3. The new function ***y = f(x – 3 )*** means:**MOVE ALONG 3 TO THE RIGHT**



4. The new function ***y = f(x + 5)*** means: **MOVE ALONG 5 TO THE LEFT**



5. The new function ***y = f(x – 4 )*** + ***2*** means: **MOVE ALONG 4 TO THE**

 **RIGHT THEN UP 2**



**REFLECTIONS:**

1. The new function ***y =*** – ***f(x)***  means: **REFLECT IN THE *x* AXIS**



2. The new function ***y = f(***– ***x)*** means: **REFLECT IN THE *y* AXIS**



**STRETCHING:**

1. The new function ***y = 2f(x)***  means: **STRETCH VERTICALLY**

 **by a factor of 2**



2. The new function ***y = ½ f(x)***  means: **COMPRESS VERTICALLY**

 **by a factor of ½**

