**Applications:**

1. a) If you want to apply a horizontal translation 4 units to the right and a translation 5 units up to the function what will the equation of the new function g be?   
     
     
     
   b) Apply a reflection around the *x*-axis and a horizontal stretch factor 3 to the function *g* . What will the equation of the new function *h* be?   
     
     
     
     
     
   c) Which transformations would you use to go directly from *f* to *h*?

1. a) If you want to apply a horizontal stretch factor and a reflection around the *x*- axis to the graph of a function *f* (not the one from the previous question), what will the equation of the function be?   
     
     
     
   b) Do it to.  
     
     
     
     
   c) If you want to compare the graph of the function you just got on question b. to the graph of , which transformations would you use in the right order?

**Your turn**:   
1) a) If you want to apply a horizontal stretch factor and a translation 4 units down to the function , , what will the equation of the new function g be?   
  
  
  
b) Apply a reflection around both axis and a horizontal translation 3 units to the left to the function *g* . What will the equation of the new function *h* be?   
  
  
  
  
  
c) Which transformations would you use to go directly from *f* to *h*?

2) a) If you want to apply a vertical stretch factor 5 and a reflection around   
 the *y*- axis to the graph of a function *f*, what will the expression be?   
  
  
  
 b) Do it to and then to .  
  
  
  
  
  
 c) If you want to compare the graph of the second function you just got on b) to   
 the graph of , which transformations would you use in the right order?