In each case, c represents a positive real number.

To Graph:	Draw the Graph of f and:	Changes in the Equation of $y = f(x)$
Vertical shifts		
$y = f(x) + c$	Raise the graph of f by c units.	c is added to $f(x)$.
$y = f(x) - c$	Lower the graph of f by c units.	c is subtracted from $f(x)$.
Horizontal shifts		
$y = f(x + c)$	Shift the graph of f to the left c units.	x is replaced with $x + c$.
$y = f(x - c)$	Shift the graph of f to the right c units.	x is replaced with $x - c$.
Reflection about the x-axis $y = -f(x)$	Reflect the graph of f about the x-axis.	$f(x)$ is multiplied by -1.
Reflection about the y-axis $y = f(-x)$	Reflect the graph of f about the y-axis.	x is replaced with $-x$.
Vertical stretching or shrinking		
$y = cf(x), c > 1$	Multiply each y-coordinate of $y = f(x)$ by c, vertically stretching the graph of f.	$f(x)$ is multiplied by $c, c > 1$.
$y = cf(x), 0 < c < 1$	Multiply each y-coordinate of $y = f(x)$ by c, vertically shrinking the graph of f.	$f(x)$ is multiplied by $c, 0 < c < 1$.
Horizontal stretching or shrinking		
$y = f(cx), c > 1$	Divide each x-coordinate of $y = f(x)$ by c, horizontally shrinking the graph of f.	x is replaced with $cx, c > 1$.
$y = f(cx), 0 < c < 1$	Divide each x-coordinate of $y = f(x)$ by c, horizontally stretching the graph of f.	x is replaced with $cx, 0 < c < 1$.

1. A project requires the transformation of the cubic function to the function $h(x) = -(x-2)^3 + 4$
   You are supervising Wells and Anderson and they have a dispute over the proper order of the transformation that you will have to write into a computer program.
   Wells says that the transformation should be:
      i. Shift right 2
      ii. Shift up 4
      iii. Reflect across the x axis

   Anderson says:

      i. Shift right 2
      ii. Reflect across the x axis
      iii. Shift up 4

They are bickering. You need to settle this and use it as a teaching moment so they both know the correct transformation (and why it is correct) for future projects. Graph both set of transformations and determine which set results in the graph $h(x) = -(x-2)^3 + 4$. Explain who is correct and why.