

9. [8 points] Let $h(x) = \frac{4}{3}g(3(x+5)) - 9$. Write out in words a sequence of transformations that, when applied to the graph of $h(x)$ result in the graph of $g(x)$.

Note: You are transforming the graph of $h(x)$ to the graph of $g(x)$ here, and **not** the other way around.

In the first blank on each line, write one of the transformations from the list at the end of the problem. In the second blank, write a number that represents the appropriate shift or scaling factor. If you don't need to use all the lines below to write out the transformation, leave any remaining lines blank.

First, _____ Shift up _____ by _____ 9 _____.

Then, _____ Compress vertically _____ by _____ $\frac{3}{4}$ _____.

Then, _____ Shift to the right _____ by _____ 5 _____.

Then, _____ Stretch horizontally _____ by _____ 3 _____.

List of transformations to choose from for the first blank on each line above:

SHIFT TO THE LEFT	SHIFT UP	STRETCH VERTICALLY	STRETCH HORIZONTALLY
SHIFT TO THE RIGHT	SHIFT DOWN	COMPRESS VERTICALLY	COMPRESS HORIZONTALLY

Solution: Note that other orders are possible, as long as they give the same resulting transformation.