Describe the transformations that have occurred to h(x) to obtain the function $y = -5h\left(\frac{2}{3}x\right)$

If (-1, 4) is a point on the function h(x), what would be the new point on the transformed function?

Combining Transformations

When a function has a combination of transformations, apply them in order left to right when in the form: $y = \pm af[\pm b(x - h)] + k$

- 1. Reflection in x-axis with Vertical Stretches and Compressions.
- 2. Reflection in y-axis with Horizontal Stretches and Compressions.
- 3. Translations (Horizontal and Vertical Shifts)

Example 1:

a) Describe, in order, how the graph of y = -2f(4(x - 2)) can be obtained from the graph of y = f(x).

b) If (x, y) was a point on f(x), what would the value of the coordinates be after the 4 transformations?

$$(x,y) \rightarrow ($$
)

U3D8

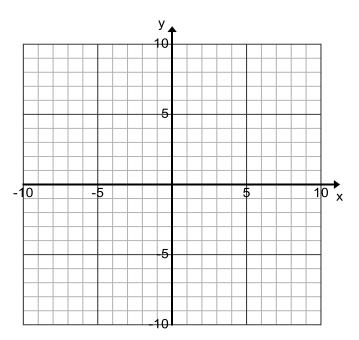
Example 2:

Given $f(x) = x^{2} + 3$

a) Describe how the graph of $y = -\frac{1}{2}f(2x + 6) - 2$ can be obtained from f(x). *First

b) What is the new "image equation"?





U3D8 Practice: p. 240 #7(odd), 8-9(odd, sketch one from each), 14