

Transformations: Describe what changes happen to the graphs. ****Recommended: Also draw a sketch.**

HORIZONTAL <i>Input –inside (), Changes x</i>	VERTICAL <i>Output – Outside x, Changes f(x)</i>
$f(x) = (x - h)$	$f(x) = (x) + k$
$f(x) = (-x)$	$f(x) = -(x)$
$f(x) = a(x)$ $a > 1$ $0 < a < 1$	

Marbleslides 1 – 8. Write your transformed graph and describe the change. **Hi-light the transformations!**

1. Transformed Graph: $f(x) =$ How did this change move the graph?	2. Transformed Graph: $f(x) =$ How did this change move the graph?
3. Transformed Graph: $f(x) =$ How did this change move the graph?	4. Transformed Graph: $f(x) =$ How did this change move the graph?
5. Transformed Graph: $f(x) =$ How did this change move the graph?	6. Transformed Graph: $f(x) =$ How did this change move the graph?
7. Transformed Graph: $f(x) =$ How did this change move the graph?	8. Transformed Graph: $f(x) =$ How did this change move the graph?

What does each transformation of the parent graph do?

$$f(x) = a(x - h) + k$$

The diagram shows the equation $f(x) = a(x - h) + k$. Arrows point to each parameter: a blue arrow points to 'a', a black arrow points to 'x', a black arrow points to 'h', and a blue arrow points to 'k'. The expression $(x - h)$ is highlighted in a grey rounded rectangle.