

Translation of $\begin{bmatrix} -2 \\ 2 \end{bmatrix}$	Stretch of Scale factor 2 in the x-direction	Translation of $\begin{bmatrix} 2 \\ 2 \end{bmatrix}$
Translation of $\begin{bmatrix} 2 \\ 2 \end{bmatrix}$	Translation of $\begin{bmatrix} -2 \\ 2 \end{bmatrix}$	Stretch of Scale factor 2 in the y-direction
Stretch of Scale factor 2 in the y-direction	Translation of $\begin{bmatrix} -2 \\ -2 \end{bmatrix}$	Reflection in the x-axis
Stretch of Scale factor $\frac{1}{2}$ in the x-direction	Reflection in the x-axis	Translation of $\begin{bmatrix} -2 \\ -2 \end{bmatrix}$

	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$
1 st Transformation						
2 nd Transformation						
f(x) =	$2(f(x-2) + 2)$	$f(\frac{1}{2}x+2) + 2$				$2f(x-2) + 2$
y =			$y = -x^2 - 4x - 2$	$y = -x^2 - 4x - 6$	$y = 4x^2 + 16x + 18$	
Sketch Graph						

SOLUTIONS

	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$	$y=x^2$
1 st Transformation	Translation of $\begin{bmatrix} 2 \\ 2 \end{bmatrix}$	Translation of $\begin{bmatrix} -2 \\ 2 \end{bmatrix}$	Translation of $\begin{bmatrix} -2 \\ -2 \end{bmatrix}$	Reflection in the x-axis	Stretch of Scale factor $\frac{1}{2}$ in the x-direction	Stretch of Scale factor 2 in the y-direction
2 nd Transformation	Stretch of Scale factor 2 in the y-direction	Stretch of Scale factor 2 in the x-direction	Reflection in the x-axis	Translation of $\begin{bmatrix} -2 \\ -2 \end{bmatrix}$	Translation of $\begin{bmatrix} -2 \\ 2 \end{bmatrix}$	Translation of $\begin{bmatrix} 2 \\ 2 \end{bmatrix}$
$f(x) =$	$2(f(x-2) + 2)$	$f(\frac{1}{2}x+2) + 2$	$-(f(x+2)-2)$	$-f(x+2)-2$	$f(4(x+2))+2$	$f(x) = 2f(x-2) + 2$
$y =$	$y = 2x^2 - 8x + 12$	$y = \frac{1}{4}x^2 + 2x + 6$	$y = -x^2 - 4x - 2$	$y = -x^2 - 4x - 6$	$y = 4x^2 + 16x + 18$	$2x^2 - 8x + 10$
Sketch Graph						