

- C3** A point on the function $f(x)$ is mapped onto the image point on the function $g(x)$. Copy and complete the table by describing a possible transformation of $f(x)$ to obtain $g(x)$ for each mapping.

$f(x)$	$g(x)$	Transformation
(5, 6)	(5, -6)	
(4, 8)	(-4, 8)	
(2, 3)	(2, 12)	
(4, -12)	(2, -6)	

$(x, y) \rightarrow (x, -y)$ this is a vertical reflection into the x -axis
 $(x, y) \rightarrow (-x, y)$ this is a horizontal reflection into the y -axis.
 $(x, y) \rightarrow (x, 4x)$ this is a vertical stretch by a factor of 4 about the x -axis
 $(x, y) \rightarrow (\frac{x}{2}, \frac{y}{2})$ this is a horizontal stretch by a factor of $\frac{1}{2}$ and a vertical stretch by a factor of $\frac{1}{2}$ as well, performed in any order.

$2 = \frac{4}{2}$
 $-6 = \frac{-12}{2}$
 $12 = 3 \times 4$