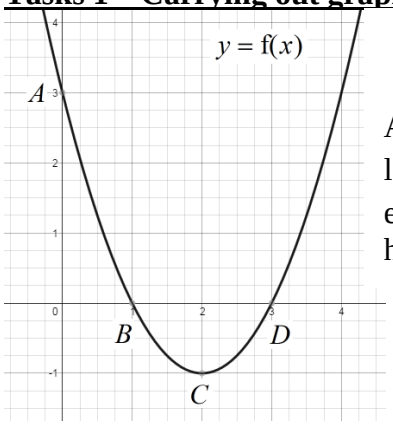
www.m4ths.com - Graph Transformations 2

Translations	Reflections
$f(x-a)$ moves in x direction by the vector $\begin{pmatrix} a \\ 0 \end{pmatrix}$.	$f(-x)$ reflects the graph in the y axis.
$f(x)+a$ moves in y direction by the vector $\begin{pmatrix} 0 \\ a \end{pmatrix}$.	$-f(x)$ reflects the graph in the x axis.

Tasks 1 – Carrying out graph transformations



$f(x)+1$	$f(x-2)$	$f(x)-3$
$-f(x)$	$f(-x)$	$f(x+2)$

Apply each of the transformations above to the graph of $y = f(x)$ (pictured to the left). Sketch each graph and write down the coordinates of A, B, C and D **after** each transformation has been applied. (Use the 'rules' at the top of the page to help you).

Task 2 – Naming graph transformations

$y = f(x)$ has had a **single** transformation performed to produce each of the six graphs below. State fully the single transformation that maps $y = f(x)$ to each of the graphs e.g $f(x+5)$ "translated 5 units left in x direction".