Fill in the Blanks	Translations of Graphs

$y = f(x)$ is translated to...	Vector	Translation in words	$y = x^3$ is translated to...	$y = 3x + 4$ is translated to...	$(-2, 5)$ is translated to...
$y = f(x) - 5$	$\begin{pmatrix} 0 \\ -5 \end{pmatrix}$	5 units in the direction of the negative y-axis	$y = x^3 - 5$	$y = 3x - 1$	$(-2, 0)$
$y = f(x - 3)$	$\begin{pmatrix} 3 \\ 0 \end{pmatrix}$	3 units in the direction of the positive x-axis	$y = (x - 3)^3$	$y = 3x - 10$	$(1, 5)$
$y = f(x + 1)$	$\begin{pmatrix} -1 \\ 0 \end{pmatrix}$	1 unit in the direction of the negative x-axis	$y = (x + 1)^3$	$y = 3x + 7$	$(-3, 5)$
$y = f(x + 5) + 1$	$\begin{pmatrix} -5 \\ 1 \end{pmatrix}$	5 units in the direction of the negative x-axis and 1 unit in the direction of the positive y-axis	$y = (x + 5)^3 + 1$	$y = 3x + 20$	$(-7, 6)$
$y = f(x) - 2$	$\begin{pmatrix} 0 \\ -2 \end{pmatrix}$	2 units in the direction of the negative y-axis	$y = x^3 - 2$	$y = 3x + 2$	$(-2, 3)$
$y = f(x - 4)$	$\begin{pmatrix} 4 \\ 0 \end{pmatrix}$	4 units in the direction of the positive x-axis	$y = (x - 4)^3$	$y = 3x - 12$	$(2, 5)$
$y = f(x) + 6$	$\begin{pmatrix} 0 \\ 6 \end{pmatrix}$	6 units in the direction of the positive y-axis	$y = x^3 + 6$	$y = 3x + 10$	$(-2, 11)$
$y = f(x - 2) - 5$	$\begin{pmatrix} 2 \\ -5 \end{pmatrix}$	2 units in the direction of the positive x-axis and 5 units in the direction of the negative y-axis	$y = (x - 2)^3 - 5$	$y = 3x - 7$	$(0, 0)$