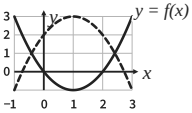
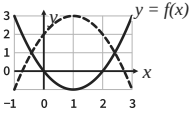


Graph Transformations *ramp up*

a Describe how $y = x^2 - 6x + 11$ moves the graph of $y = x^2$ 	b $y = x^2 + 2x$ is translated 3 right. Find and expand the new equation. 	c $y = f(x)$ has its turning point at $(2, -3)$. Find the turning point of $y = f(x + 1) - 4$ 	d $y = f(x)$ is translated 4 up, then reflected in the x axis. Write it using f .
e Write the dashed curve with f  	f Describe the translation that maps $y = \sin x$ onto $y = \cos x$ 	g Find the maximum point of $y = -\cos x$ from 0° to 360° 	h Find the translation of $y = \frac{1}{x}$ with asymptotes $x = 2$ and $y = -1$
i $y = f(x)$ has a minimum at (a, b) . Find the turning point of $y = -f(x - 2)$ 	j $f(x) = (x - 1)(x - 5)$. Find a so that $f(x + a)$ is symmetric about the y axis. 	k $(2, 5)$ is on $y = f(x)$. Where does it move to on $y = f(1 - x)$? 	l $f(x) = x^2 - 2x$. Show that $y = f(-x)$ and $y = f(x + 2)$ are the same graph.

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