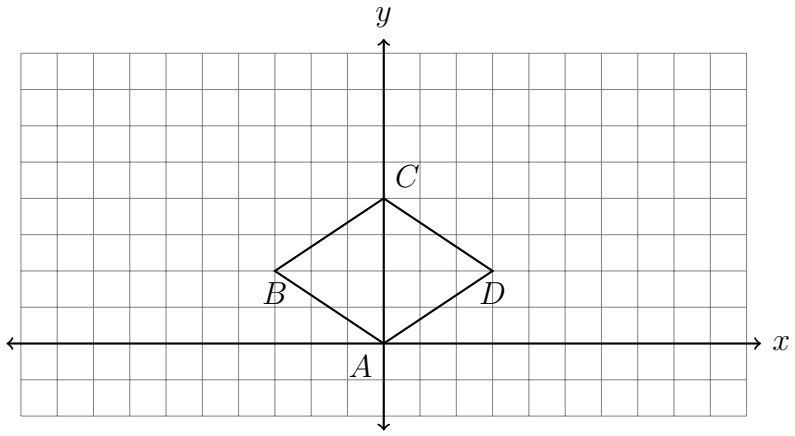
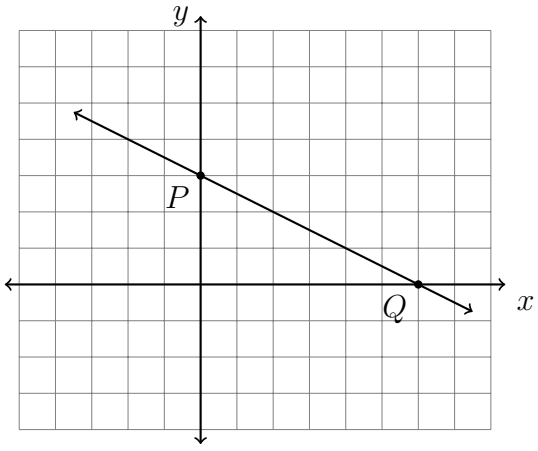
Unit 11: Function transformations Name:
25 April 2022

11.1 Translation of a parabola **HSG.CO.A.5**

1. Slide the rhombus $ABCD$ to the right six and up two. Label the image $A'B'C'D'$.



2. In the diagram below, $\overleftrightarrow{PQ}$ has the equation $y = -\frac{1}{2}x + 3$.



   (a) Write down the slope of $\overleftrightarrow{PQ}$,

   $m =$

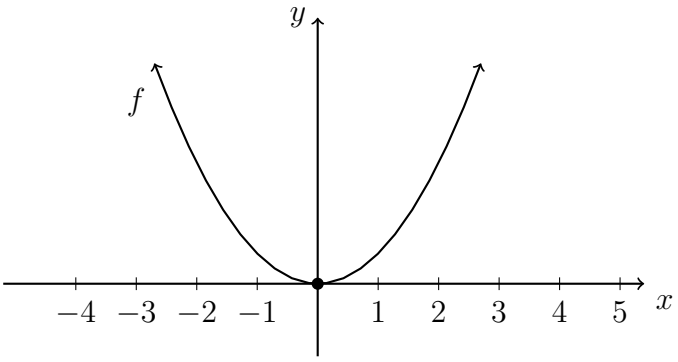
   (b) Write down the y-intercept of $\overleftrightarrow{PQ}$,

   $b =$

   (c) Translate the line up 2. Mark the images P' and Q'.

   (d) Write down the equation of $\overleftrightarrow{P'Q'}$

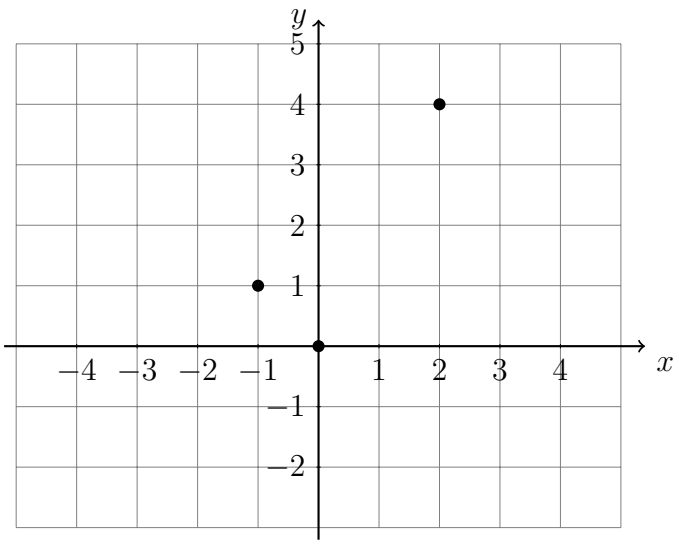
3. Translate the parabola f to the right three.



4. Complete the t-table for the function f: $y = x^2$, plot the points, and draw f as a smooth curve.

$f(x)$

x	x^2
-2	
-1	1
0	0
1	
2	4



$f(x) - 2$

Translate the parabola f down two and complete the t-table at right.

5. Two parabolas are shown below, $g(x)$ (solid line) and the parent function $y = x^2$ (dashed). What translation would map g onto the parent?