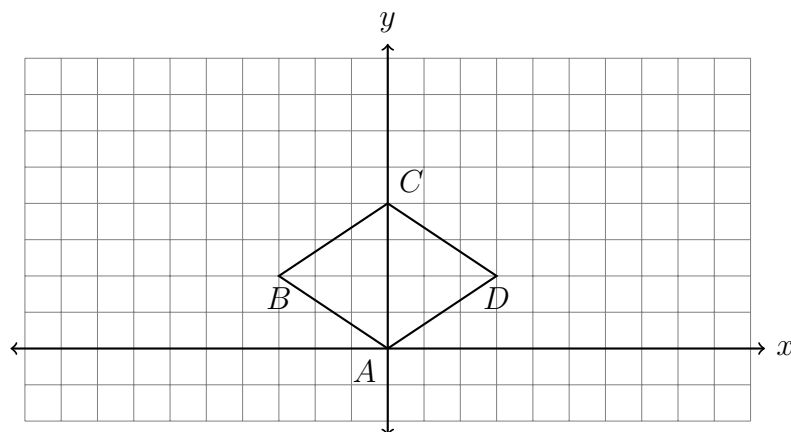


### 11.1 Translation of a parabola

HSF.BF.B.3

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



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

- Write down the slope of  $\overleftrightarrow{PQ}$ ,

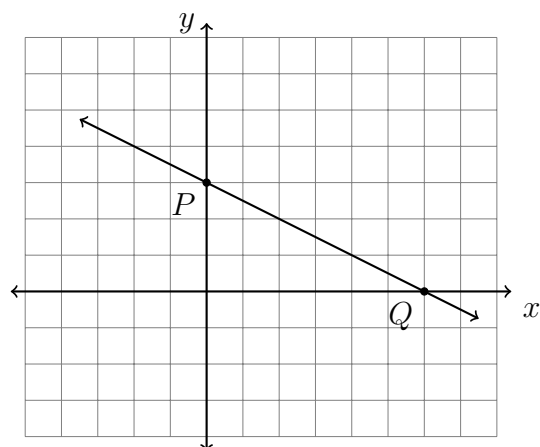
$m =$

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

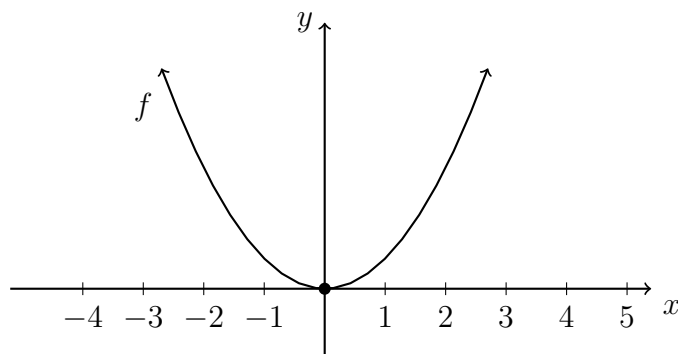
$b =$

- Translate the line up 2. Mark the images  $P'$  and  $Q'$ .

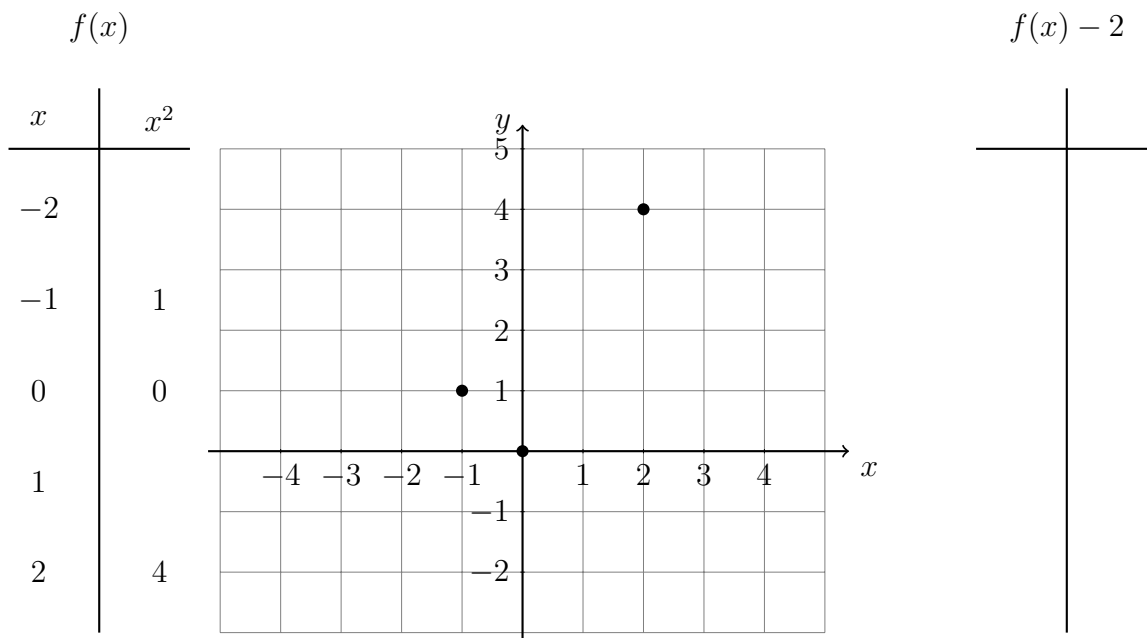
- Write down the equation of  $\overleftrightarrow{P'Q'}$



- 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.



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?

