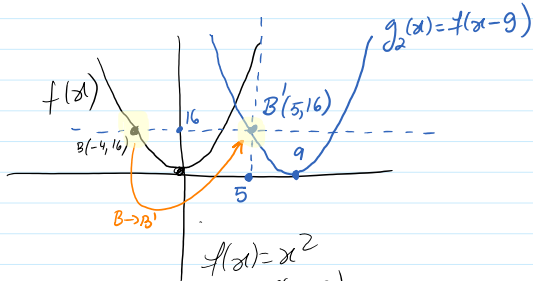




this link takes you to a view of this graph in DESMOS: <https://www.desmos.com/calculator/itmpvvelvo>

Case II:  $x = -4$  resulted in  $h_2 = 9$  to the R

$g(x) = f(x-9)$  a shift of 9 units to the right



$$f(x) = x^2$$

$$g(x) = f(x-9)$$

(5, 16) on g(x)?

$$y = g(5) = (5-9)^2 = (-4)^2 = 16 \checkmark$$

This solution seems ok as well.

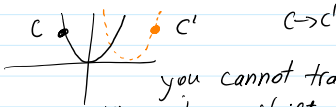
this link takes you to a view of this graph in DESMOS: <https://www.desmos.com/calculator/cxv0mnedmi>

### Conclusion

Therefore, there are 2 way to shift the  $f(x) = x^2$  parabola horizontally, either 1 unit to the right, or 9 units to the right in both cases (5, 16) will be on the transformed result:  $g(x)$ .

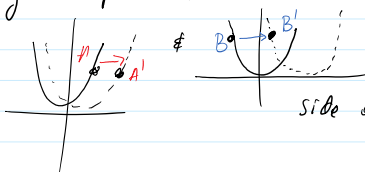
### WHY ASK IN THE FIRST PLACE?

what would hv qualified as an extraneous solution?  
if the transition looked so.



you cannot transition  $C \rightarrow C'$  via only a shift, only through a shift + reflection, so this could hv not solved the problem.

Since all point transitioned correctly as required by a simple shift -



that is both parent & transformation hv the points on the same side of the axis of symmetry.