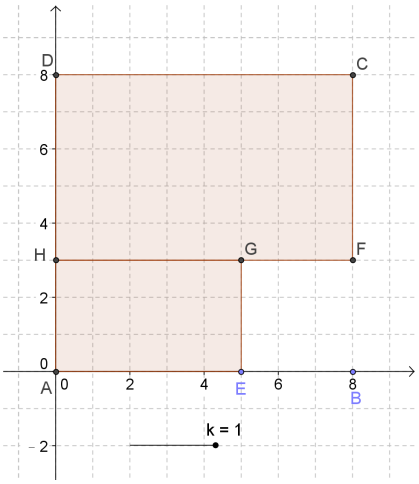
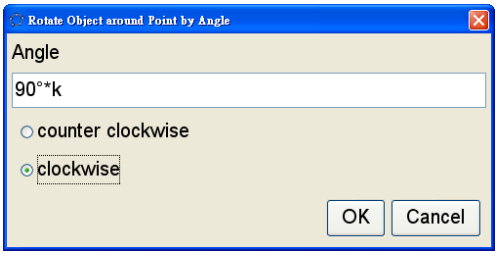
GeoGebra Tutorial: **Difference of Squares**

1. Right-click in the Graphics view. Choose “Graphics …” and the “Grid” tab. Check the “Distance” box and set the distances of x and y both “1”. Choose solid bold line style.
2. Using the point tools , create the points A(0,0) and B(8,0).
3. Select the regular polygon tool . Click A then B. Input 4 for vertices. A square ABCD is created.
4. Input: `E=Point[a]` to create a point of the side AB.
5. Select regular polygon tool . Click E then B. Input 4 for vertices. A square EBFG is created.
6. Hide the two squares.
7. Input: `H=(0,y(G))`
8. Select the polygon tool . Create two rectangles AEGH and HFCD as shown.



9. Select the slider tool . Create a slider k of values from 0 to 1 with 0.01 increments. Hide its label.
10. Select the dilation tool . Click C then A. Input k for the factor. An image point C’, which runs from A to C depending on the value of k, should appear.
11. Select the vector tool . Create a vector from A to C’.
12. Select the translation tool . Click the rectangle AEGH then the vector AC’. An image rectangle A’E’G’H’ is created, which can be moved by the slider.
13. Select the rotation tool . Click the rectangle A’E’G’H’ then C’. Enter the angle as shown. An image rectangle A’’E’’G’’H’’ is created.



14. Hide the vector AC’ and the rectangles AEGH and A’E’G’H’, leaving HFCD and A’’E’’G’’H’’.

15. Choose “Options | Algebra Descriptions | Command”.
    Click also  to show also auxilury objects.
16. In Algebra view, find the segment joining H and F, set “Condition to Show Object” “**k>0**”.
17. In Algebra view, find the segment joining H’’ and G’’, set “Condition to Show Object” “**k>0**”.
18. Show the segment joining F and G.
19. Hide all points except B and E. Hide the labels of B and E.
20. Hide the axes. Adjust colors, line thickness, opacity, etc as you like.