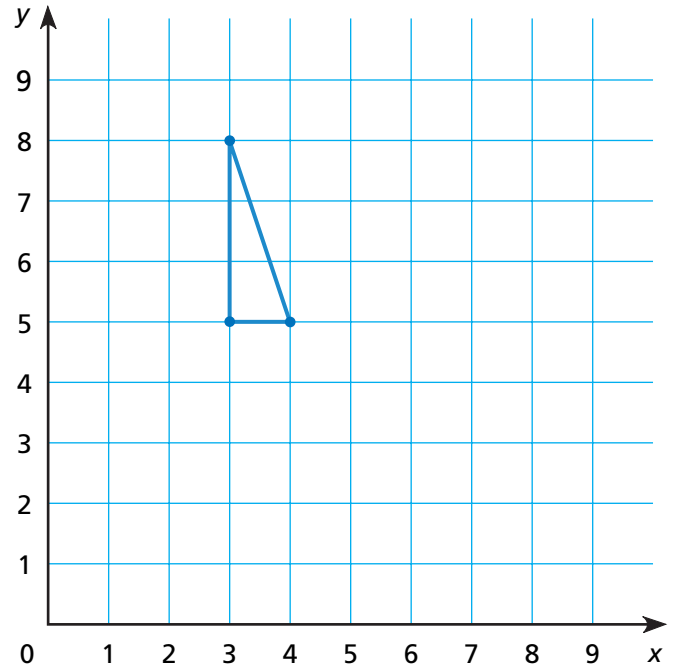


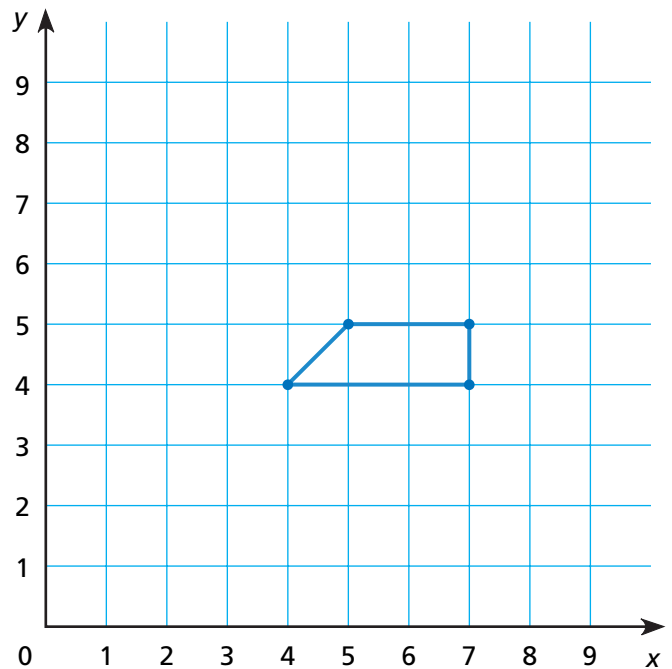
# Rotating Figures on a Grid

NCTM Standards 3, 7, 10

- 1 Rotate the triangle  $180^\circ$  counterclockwise around the point  $(4,5)$ . Draw the result.



- 2 Rotate the trapezoid  $90^\circ$  counterclockwise around the point  $(4,4)$ . Draw the result.

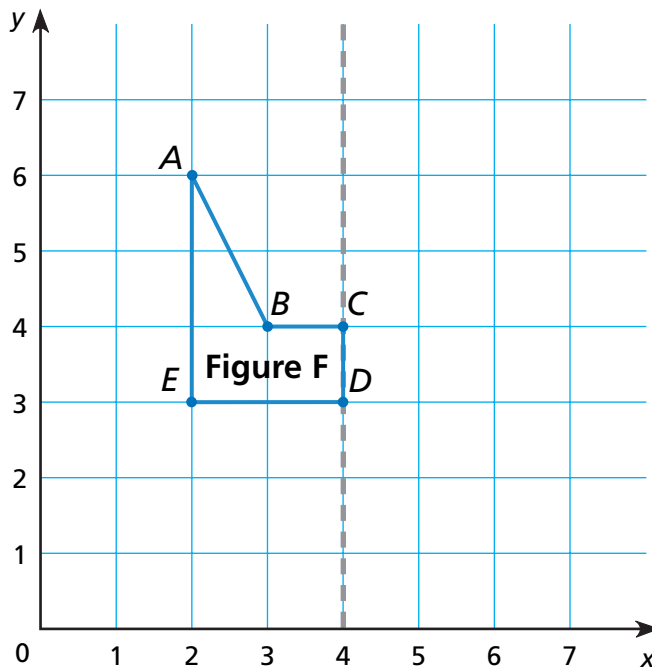


3 Rotate Figure F  $180^\circ$  around the point  $(4,3)$ . Label the rotated image Figure G.

4 Reflect Figure G over the dotted vertical line. Label the reflected image Figure H.

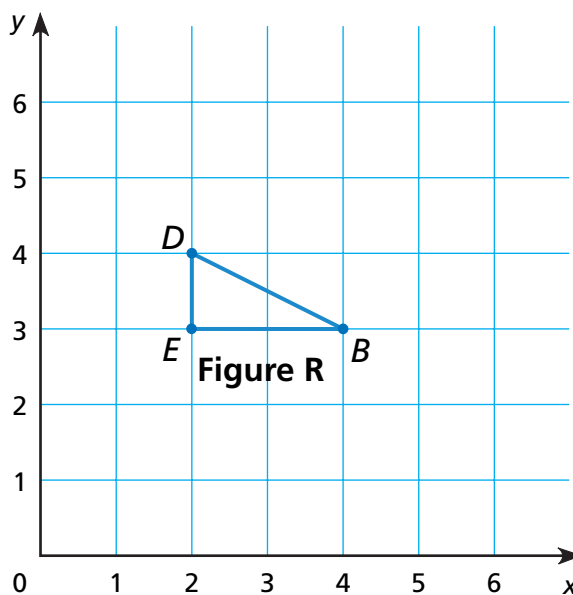
5 Record the coordinates of each vertex of Figure F and the corresponding points on Figures G and H.

	F	G	H
A	$(2,6)$		
B			
C			
D			
E			



6 Rotate Figure R  $270^\circ$  counterclockwise around point  $(5,3)$ . (Note that this point is not part of Figure R!)

Label the rotated image Figure S.



7 **Challenge** Look at Problem 6. What other rotation around the point  $(5,3)$  could produce Figure S?

(Hint: Reverse the direction of rotation.)

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