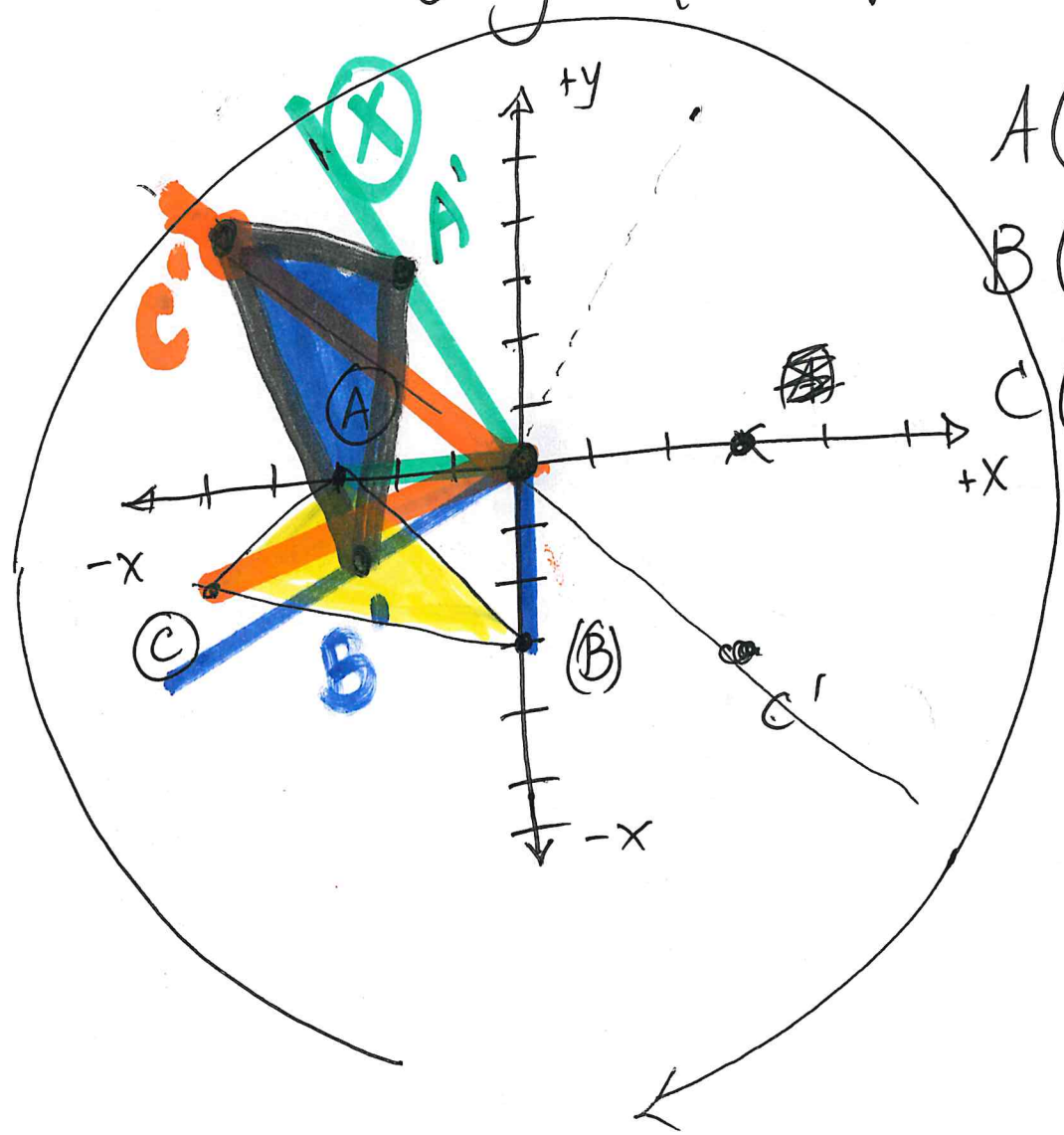


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# Lesson 17: Rotations, Reflections, & Translations

ie 1

Rotation  $60^\circ$  C.W. about the origin (fixed point)



- $A(-3,0)$
- $B(0,-3)$
- $C(-5,-2)$

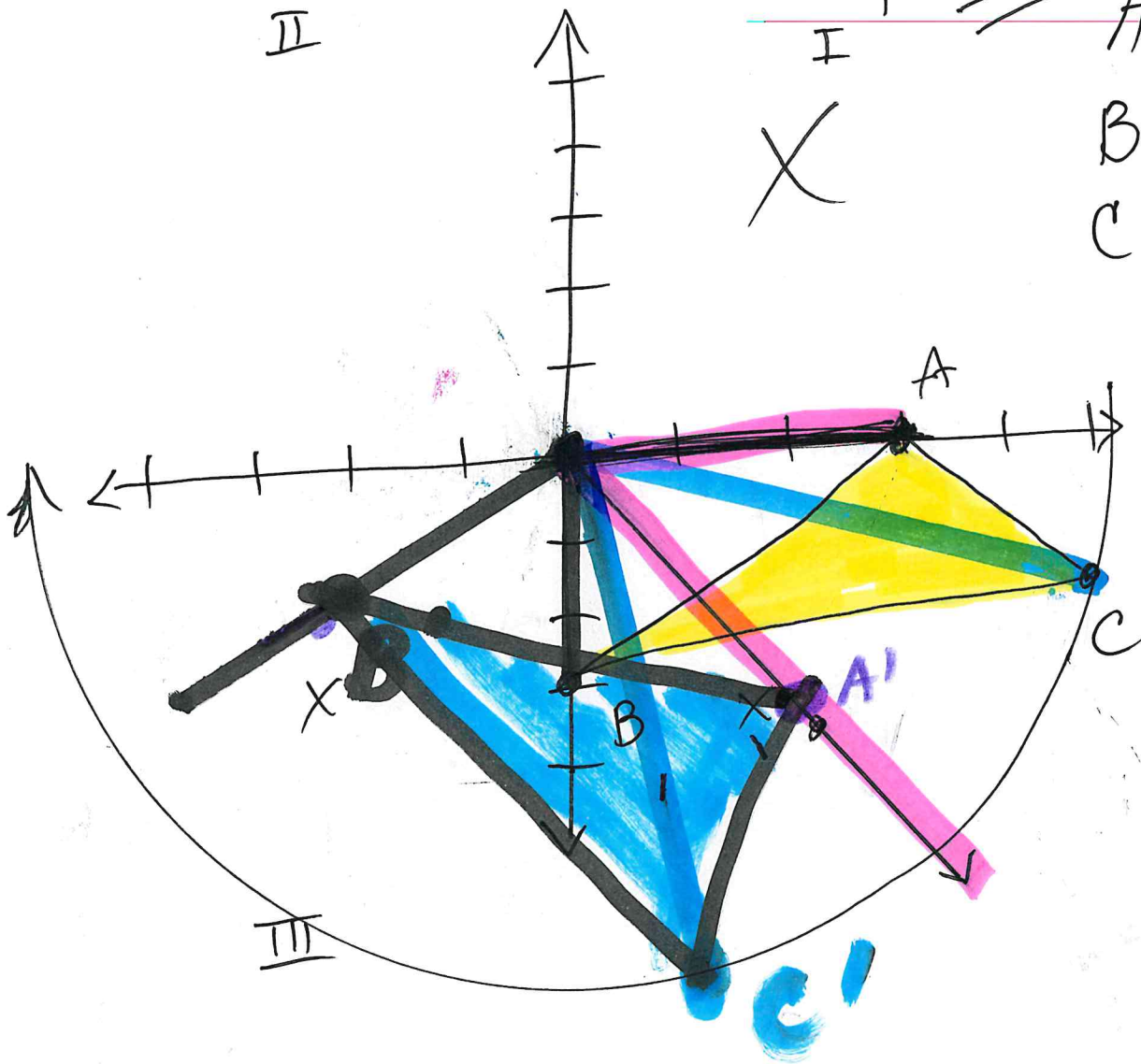
1

cmw  $60^\circ$   
Fixed at origin

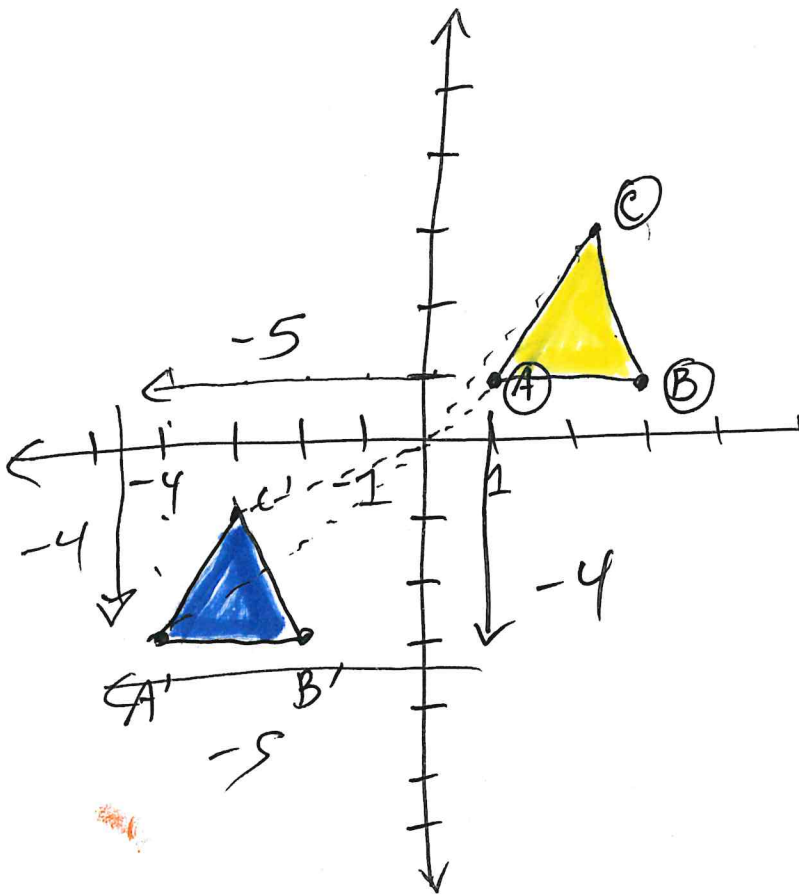
$A(3,0)$

$B(0,3)$

$C(5,-2)$



ie2



$A(1,1)$   
 $B(3,1)$   
 $C(2,3)$

$A'(-4,-3)$   
 $B'(-2,-3)$   
 $C'(-3,-1)$

Translation

$$(X, y) \rightarrow (X \boxed{-5}, y \boxed{-4})$$

(change in x)      (change in y)