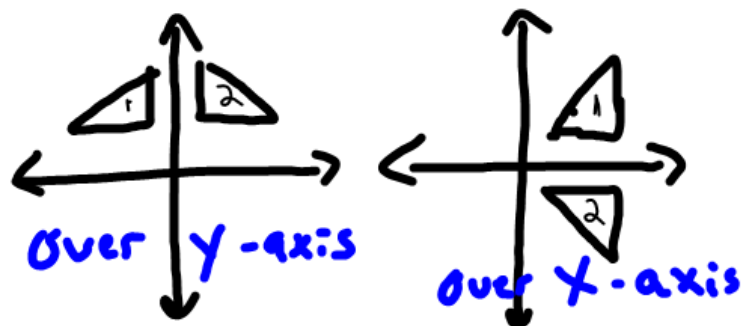
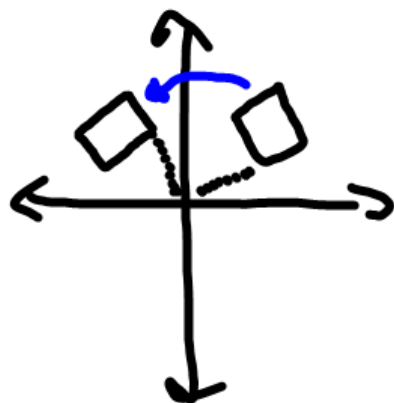


4.8 Congruent Transformations

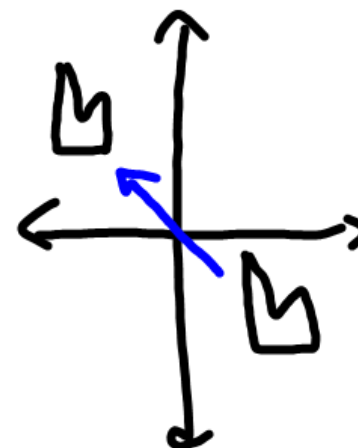
Moving shapes to another place



Reflection



Rotation
(around origin)



Translation
(move up/down,
left/right or
both)

* All shapes stay same size *

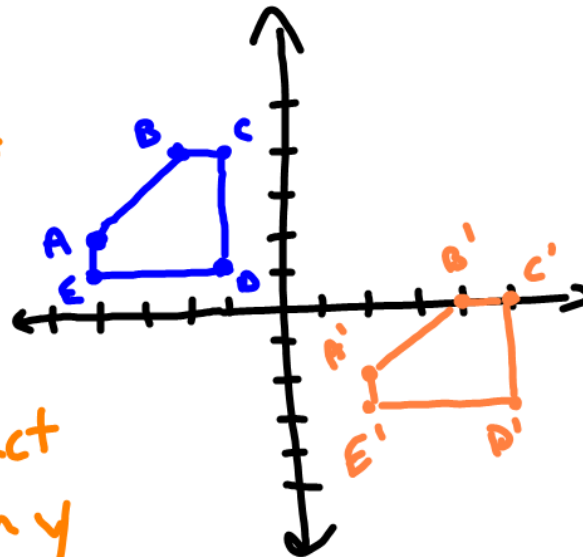
Translate Me!

$$(x, y) \rightarrow (x + _, y + _)$$

<u>ABCDE</u>	<u>A'B'C'D'E'</u>
A (-4, 2)	A' (2, -2)
B (-2, 4)	B' (4, 0)
C (-1, 4)	C' (5, 0)
D (-1, 1)	D' (5, -3)
E (-4, 1)	E' (2, -3)

x-coords
are
+ 6

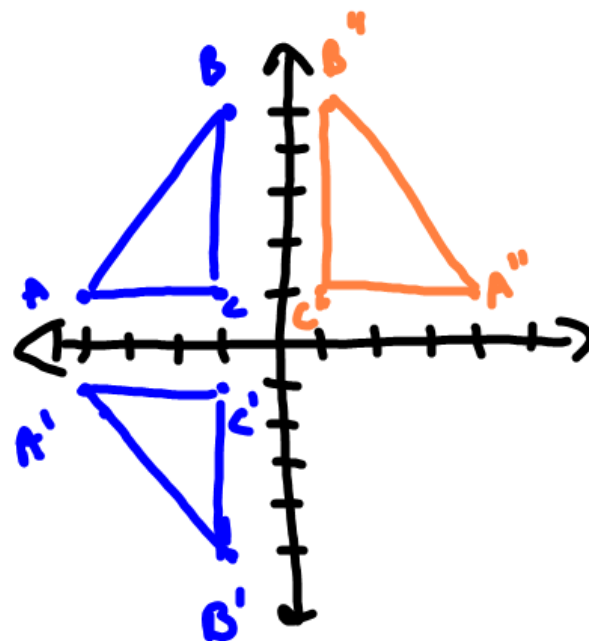
Subtract
4 from y



$$(x, y) \rightarrow (x + 6, y - 4)$$

Reflections!

ABC	$A'B'C'$	$A''B''C''$
$A(-4, 1)$	$A'(-4, -1)$	$A''(4, 1)$
$B(-1, 5)$	$B'(-1, -5)$	$B''(1, 5)$
$C(-1, 1)$	$C'(-1, -1)$	$C''(1, 1)$



Reflect
over x-axis

Reflect
over y-axis

$$(x, y) \rightarrow (x, -y)$$

$$(x, y) \rightarrow (-x, y)$$