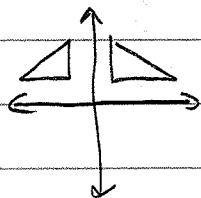


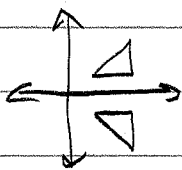
4.8 Congruent Transformations

Moving Shapes to another place



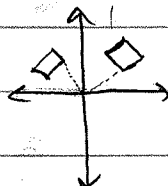
Reflection

over y-axis



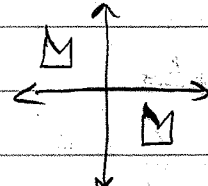
Reflection

over x-axis



Rotation

Clock rotating around origin



Translation

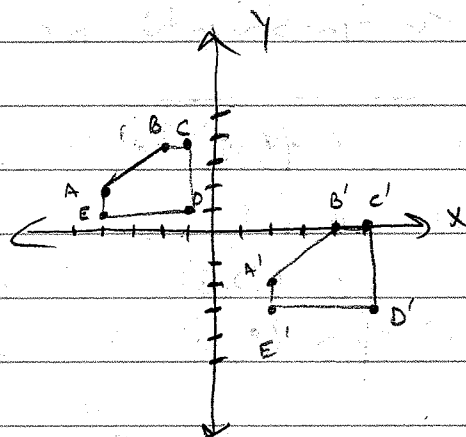
Move left/right or up/down

Shape stays same size, equal sides

Translate Me

$$(x, y) \rightarrow (x + \text{---}, y + \text{---})$$

ABCDE	A'B'C'D'E'
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)



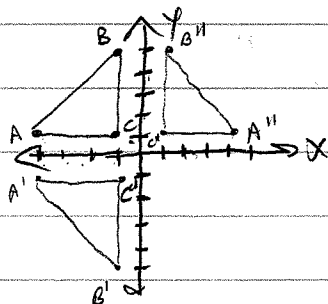
add 6 to x

subtract 4 from y

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

Reflect Me

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



over x-axis

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

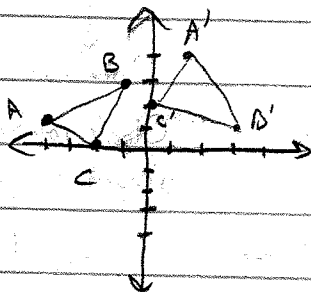
$$(x, y) \rightarrow (x, -y)$$

Rotate Me!

ABC	A'B'C'
A(-4,1)	A'(1,4)
B(-1,3)	B'(3,1)
C(-2,0)	C'(0,2)

x & y coord switch, x + -1

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



Write the transformation for

A(1,2)	A'(6,5)
B(4,-3)	B'(9,0)
C(5,5)	C'(10,8)
D(4,7)	D'(9,10)

add 5 to x, add 3 to y

$$(x, y) \rightarrow (x+5, y+3)$$

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p276: 17-21, 26-29, 38, 40