Name ..... Date ..... Class .....

Labsheet 3.3 Rotations of 90° and 180°

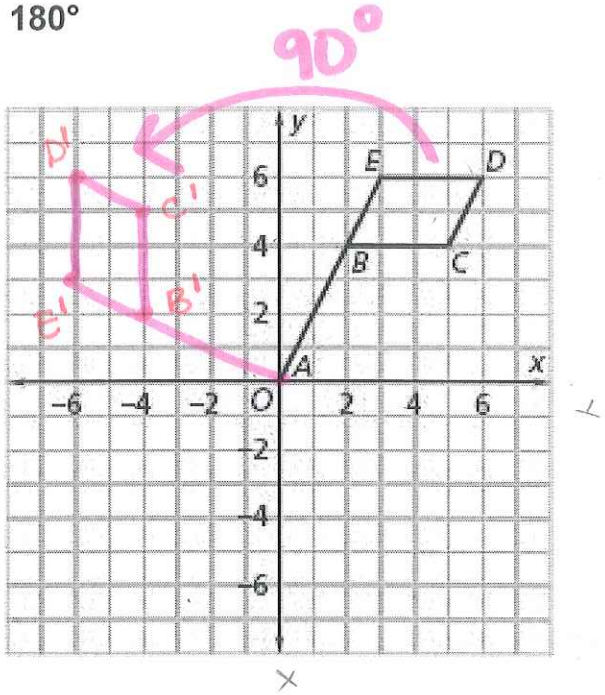
A. Rotate points *A–E* 90° counterclockwise about the origin. Complete the table showing the coordinates of points *A′–E′*, which are the images of points *A–E*

(0,0), or A, is the center of rotation.

1. Rule: $(x,y) \rightarrow (-y,x)$

2. Yes, this will work in any Quadrant.

3a. A doesn't move because it is the center of rotation.



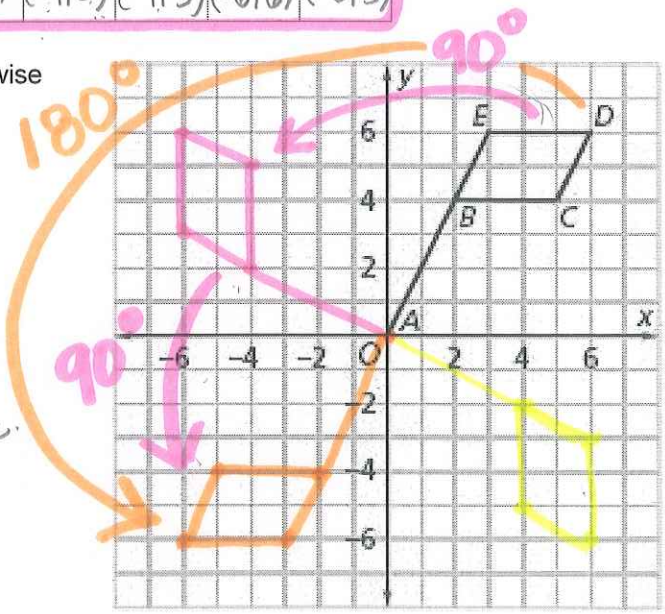
Point	A	B	C	D	E
Original Coordinates	(0, 0)	(2, 4)	(5,4)	(6,6)	(3,6)
Coordinates After a 90° Rotation	(0,0)	(-4,2)	(-4,5)	(-6,6)	(-6,3)

B. Rotate points *A–E* another 90° counterclockwise about the origin so that they rotate a total of 180°. Complete the table showing the coordinates of points *A″–E″*, which are the images of points *A′–E′*

1. Rule: $(x,y) \rightarrow (-x,-y)$

2. Yes, this will work in every Quadrant.

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



Point	A	B	C	D	E
Original Coordinates	(0, 0)	(2, 4)	(5,4)	(6,6)	(3,6)
Coordinates After a 180° Rotation	(0,0)	(-2,-4)	(-5,-4)	(-6,-6)	(-3,-6)

(-4, 2)