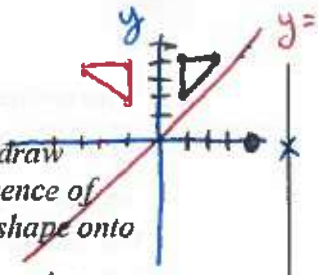


G-CO.5: *I can demonstrate and draw transformations. I can find a sequence of transformations that will carry a shape onto another*

THE Y AXIS & y=x intersect at 45°

20. $\triangle DEF$ with vertices $D(1,2)$, $E(3,4)$, and $F(1,4)$ is reflected across the y-axis, and then its image is reflected across the line $y = x$.

Reflect + Reflection = Rotation of 2 x THE ANGLE OR INTERSECTION

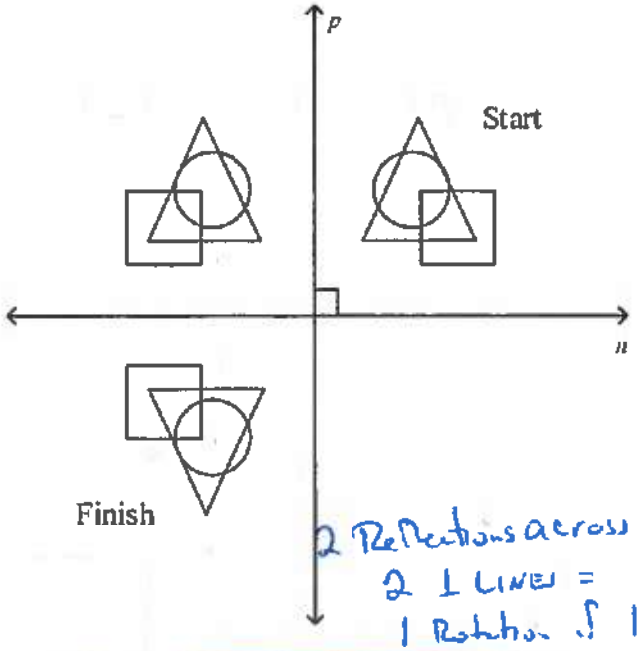
Which single transformation moves the triangle from its starting position to its final position?

A. rotation by 90° about the origin
B. rotation by 270° about the origin
C. reflection across the x-axis
D. reflection across the y-axis

45 x 2 = 90 BUT IT IS IN A CLOCKWISE DIRECTION SO -90

Therefore ANSWER B IS CORRECT

21. Ann wants to create a design to decorate her Geometry binder. She reflects part of the design across line p and then reflects the image across line n. Describe a single transformation that moves the part of the design from its starting position to its final position.



2 Reflections across 2 LINES = 1 Rotation of 180°

A. rotation of 180° about the origin
B. rotation of 90° about the origin
C. translation along the line $p = n$
D. reflection across the line $p = n$

G-CO.6: *I can decide if two shapes are congruent because of the rigid motions between the two figures. I can investigate rigid motions and generalize their characteristics as preserving congruence. I can find a sequence of transformations that will carry a shape onto another.*

22. Rhombus $PQRS$, with vertex coordinates $P(-6, 1)$, $Q(-5, 4)$, $R(-2, 5)$, and $S(-3, 2)$, was reflected over the line $x = -1$.

Liam states that the reflection of $PQRS$ must also be a rhombus because a reflection is a congruence transformation. Explain what Liam means by this statement.

Answer: (A REFLECTION)

IT IS A RIGID MOTION WHICH MEANS THE PRE-IMAGE AND THE IMAGE HAVE THE SAME SIZE & SAME SHAPE. THE IMAGE MUST ALSO BE A RHOMBUS.

#20