Symmetry Classwork
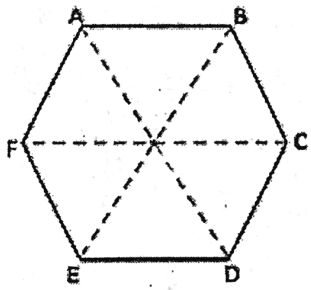
60
$10\overline{)360}$

A clockwise rotation of how many degrees would map vertex A onto vertex E?
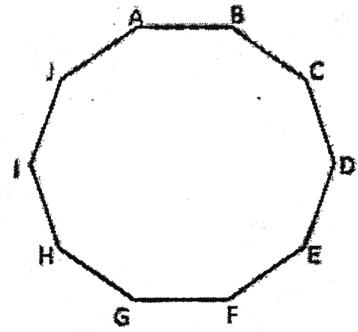
240°   60×4 = 240°

Where would vertex D end up after a rotation of 120 degrees clockwise?

F

Where would vertex A end up after a clockwise rotation of 396°?   **36°**   **B**

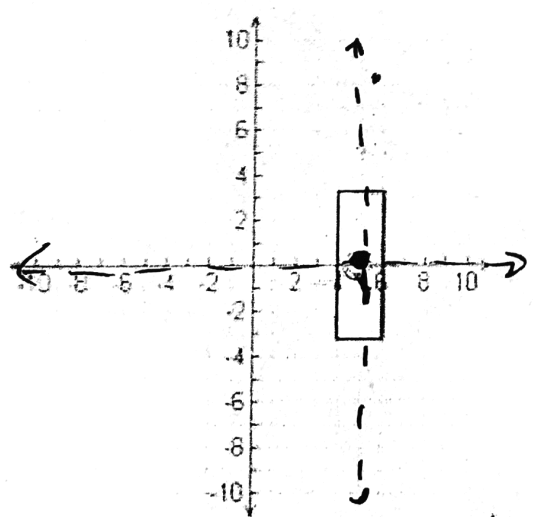How many degrees of a rotation would map vertex F onto vertex J? (clockwise)
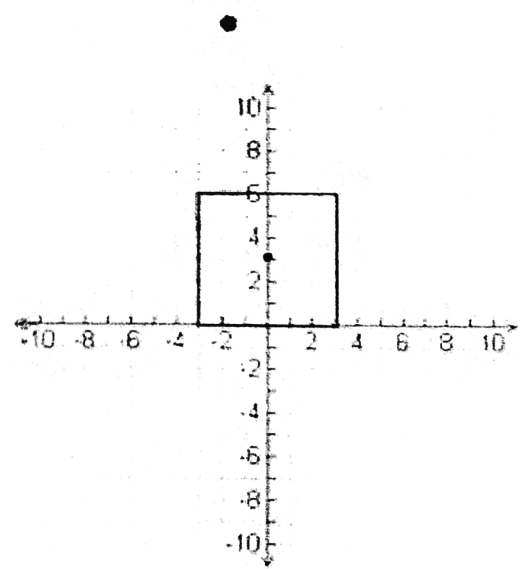
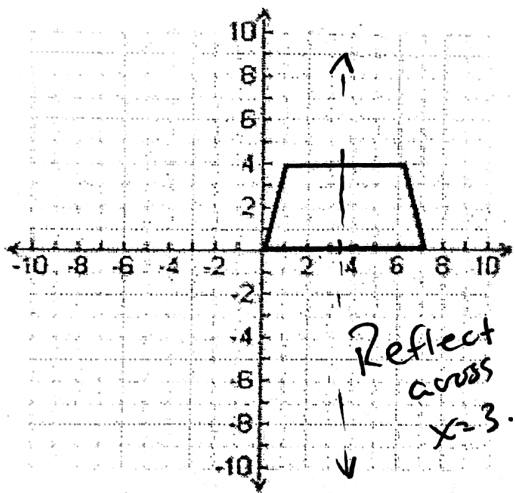$10\overline{)360}$

Decagon

144°

Come up with as many transformations as you can that maps each figure onto itself. (look for lines of symmetry and rotations about a point)

Reflection across x=5
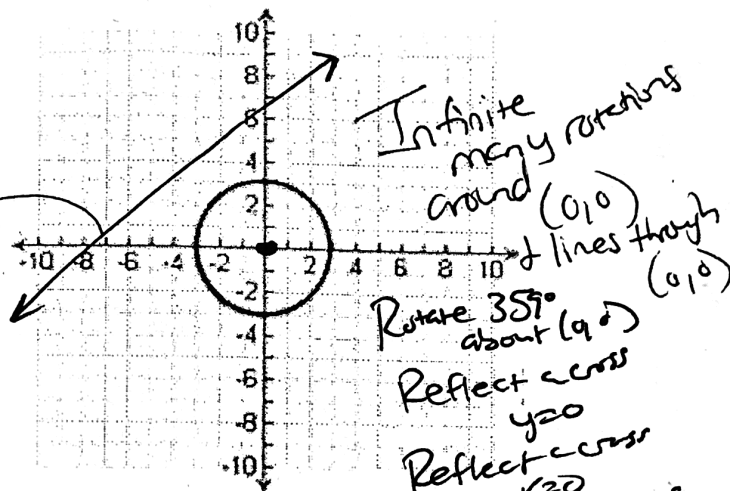Reflection across y=0
Rotation 180° around (5,0)

Rotate 90° around (0,3)
Rotate 180° around (0,3)
Rotate 270° around (0,3)
Reflect across   y=x+3
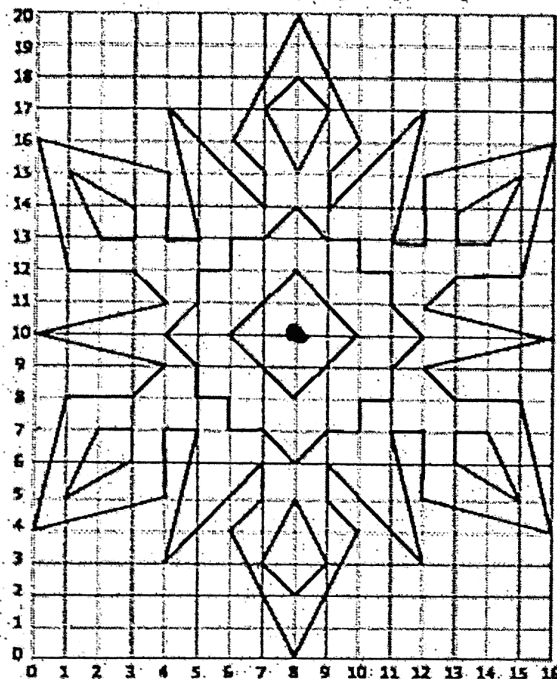Reflect across   y=-x+3
Reflect across   x=0
Reflect across   y=3

Reflect across x=3.5

This does not curve

Infinite many rotations around (0,0) & lines through (0,0)

Rotate 35° about (0,0)

Reflect across y=0

Reflect across x=0

Reflect across y=x

Reflect across y=-x

Reflect across y=2x

Reflect across y=½x

Reflect across y=2x

Reflect across x=8

Reflect across y=10

Rotation 180° about (8,10)

The figure shows two perpendicular lines, s and r, intersecting at point P in the interior of a trapezoid. Line r is parallel to the bases and bisects both legs of the trapezoid. Line s bisects both bases of the trapezoid.
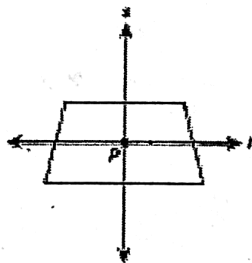
Which transformation will always carry the figure onto itself?

Select all that apply.

Ⓐ a reflection across line r

Ⓑ a reflection across line s

Ⓒ a rotation of 90° clockwise about point P

Ⓓ a rotation of 180° clockwise about point P

Ⓔ a rotation of 270° clockwise about point P