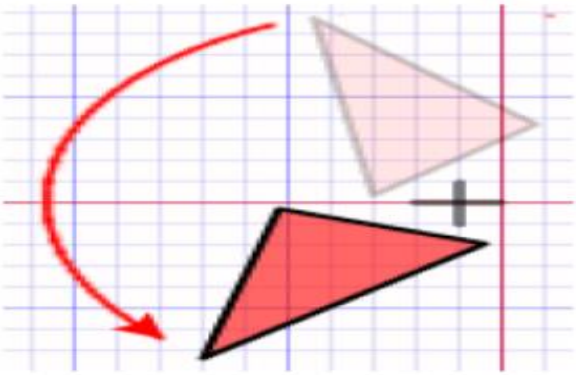
UNIT 1 LESSON 4 - ROTATIONS

Rotations **Notation: R_{degree}**

Rotations = turns the figure



ALL MOVEMENTS ARE COUNTER CLOCKWISE

Rules: 90° rotation about the origin: $R_{90}(x,y) = (-y,x)$

180° rotation about the origin: $R_{180}(x,y) = (-x,-y)$

270° rotation about the origin: $R_{270}(x,y) = (y,-x)$

The "negative sign" means to change the sign of the coordinate!!!

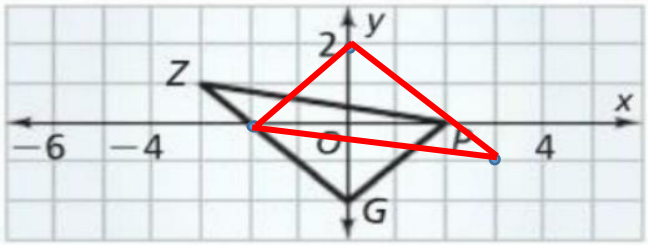
THIS BOX IS ONLY USED WHEN THE DIRECTIONS USE THE WORD "CLOCKWISE"

90^{o} counter-clockwise = 270^{o} clockwise

270^{o} counter-clockwise = 90^{o} clockwise

180^{o} counter-clockwise = 180^{o} clockwise

Ex 1) What are the coordinates of ΔPZG after a 180 degree rotation?



1) Find the pre-image coordinates

Z (-3, 1), P (2, 0), G (0, -2)

2) Use the R_{180} rule: $R_{180}(x,y) = (-x,-y)$

Z' (3, -1), P' (-2, 0), G' (0, 2)

Ex 2) What are the coordinates of the image of P(-2, 5) after a clockwise rotation of 90° about the origin?

The magic word in the directions is "CLOCKWISE".

You would use the R_{270} rule: $R_{270}(x,y) = (y,-x)$

P (-2, 5) ⟶ **P' (5, 2)**

YOU TRY!

Ex 3) What is the image of A(5, 2) under $R_{90°}$?

Ex 4) What are the coordinates of ΔMWR after the following transformation: R_{270}(ΔMWR)?