

# ROTATIONS

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Two types:



Determined by degrees:

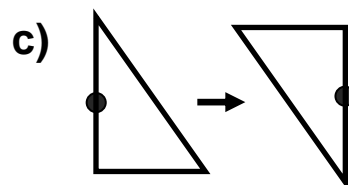
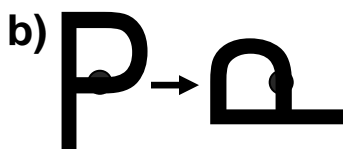
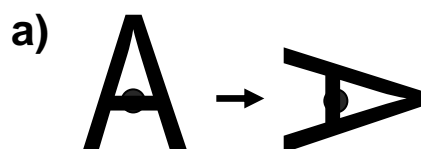
90°:

180°:

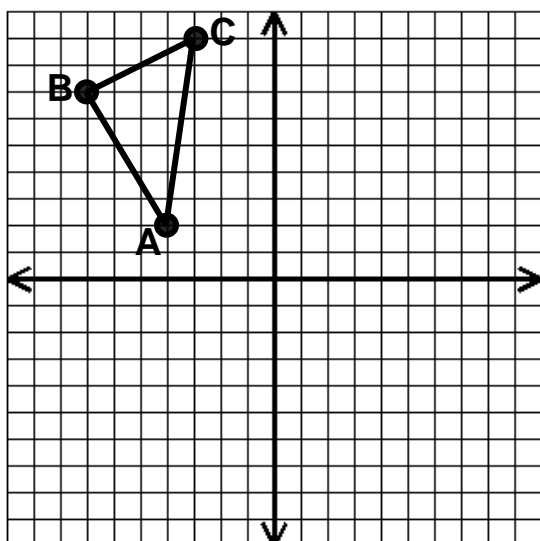
270°:

360°:

EXAMPLE 1: Describe each rotation.



EXAMPLE 2: Draw the resulting triangles when the triangle is rotated 90°, 180°, and 270° clockwise about the origin.



After 90° Rotation:

A' (\_\_\_\_\_, \_\_\_\_\_)

B' (\_\_\_\_\_, \_\_\_\_\_)

C' (\_\_\_\_\_, \_\_\_\_\_)

After 270° Rotation:

A' (\_\_\_\_\_, \_\_\_\_\_)

B' (\_\_\_\_\_, \_\_\_\_\_)

C' (\_\_\_\_\_, \_\_\_\_\_)

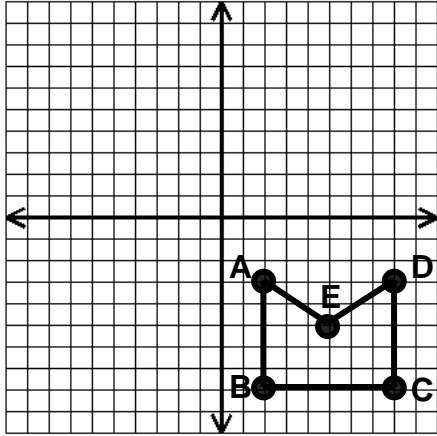
After 180° Rotation:

A' (\_\_\_\_\_, \_\_\_\_\_)

B' (\_\_\_\_\_, \_\_\_\_\_)

C' (\_\_\_\_\_, \_\_\_\_\_)

**EXAMPLE 3:** Rotate the figure below  $90^\circ$  clockwise about the origin and define its new coordinates.



A' (\_\_\_\_\_, \_\_\_\_\_)

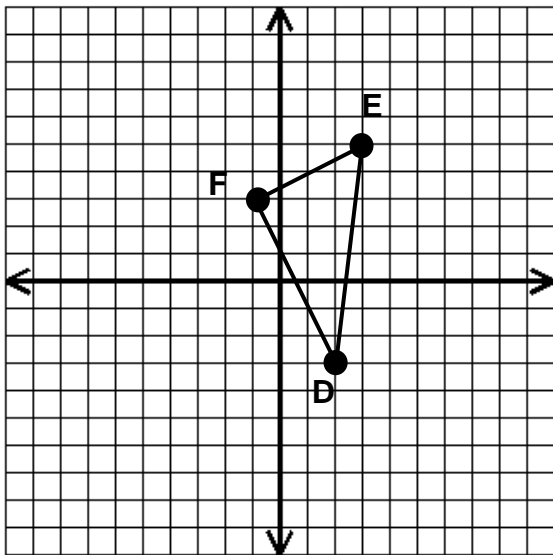
B' (\_\_\_\_\_, \_\_\_\_\_)

C' (\_\_\_\_\_, \_\_\_\_\_)

D' (\_\_\_\_\_, \_\_\_\_\_)

E' (\_\_\_\_\_, \_\_\_\_\_)

**EXAMPLE 4:** Rotate the figure below  $180^\circ$  about the origin and define its new coordinates.

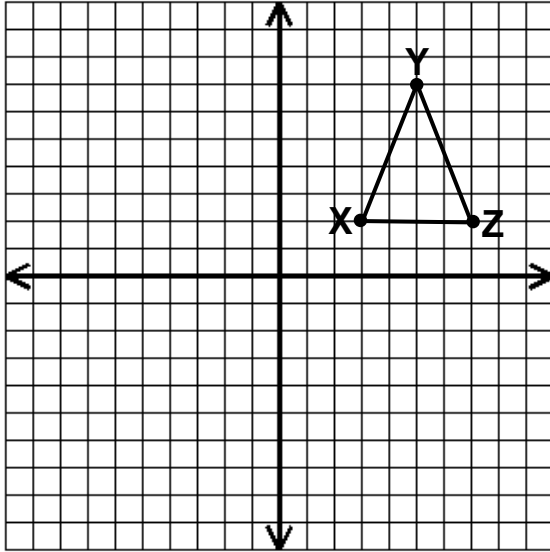


D' (\_\_\_\_\_, \_\_\_\_\_)

E' (\_\_\_\_\_, \_\_\_\_\_)

F' (\_\_\_\_\_, \_\_\_\_\_)

**EXAMPLE 5:** Rotate the figure below  $90^\circ$  counter-clockwise about the origin and define its new coordinates.



X' ( \_\_\_\_\_ , \_\_\_\_\_ )

Y' ( \_\_\_\_\_ , \_\_\_\_\_ )

Z' ( \_\_\_\_\_ , \_\_\_\_\_ )