

Use the Rotations video to answer the following questions.

1. Rotation is a change in _____ but not in _____.
2. Rotations move in two directions: _____ & _____.
Rotations are also measured in _____.
3. A one quarter turn is measured by _____ degrees.
4. Positive rotations are _____ directions and negative rotations are _____ directions.

Degrees of Rotation			
Counterclockwise	Example	Clockwise	Example
90 Formula/Rule:	Find the Image for each point when rotated 90 ccw: C(3,6) ->	-90 Formula/Rule:	Find the Image for each point when rotated 90 cw: D(5,-8) ->
180 Formula/Rule:	Find the Image for each point when rotated 180 ccw: C(3,6) ->	-180 Formula/Rule:	Find the Image for each point when rotated 180 cw: D(5,-8) ->
270 Formula/Rule:	Find the Image for each point when rotated 270 ccw: C(3,6) ->	-270 Formula/Rule:	Find the Image for each point when rotated 270 cw: D(5,-8) ->

Write the coordinates obtained after the rotation about the origin.

- 1) $K(1, 0)$, $L(4, 1)$, $M(1, 4)$, $N(-2, 3)$ 90 counterclockwise rotation

K' _____ L' _____

M' _____ N' _____

- 2) $E(-8, -8)$, $F(-6, -10)$, $G(-2, -8)$, $H(-6, -6)$ 180 rotation

E' _____ G' _____

F' _____ H' _____

- 3) $T(-3, -1)$, $U(1, -2)$, $V(2, 2)$, $W(-1, 1)$ 90 counterclockwise rotation

T' _____ U' _____

V' _____ W' _____

- 4) $C(6, 1)$, $D(4, 3)$, $E(6, 5)$, $F(10, 1)$ 180 rotation

C' _____ D' _____

E' _____ F' _____

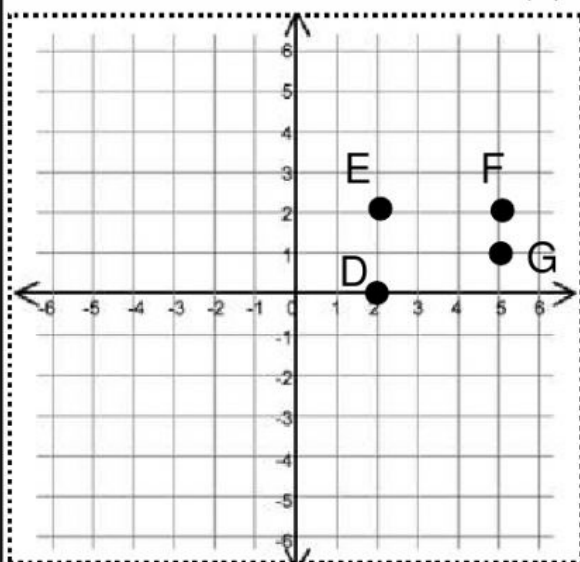
Rotations

8

#1

Rotate figure DEFG 90° clockwise

D (2,0) E(2,2) F(5,2) G(5,1)



Pre-Image

Image

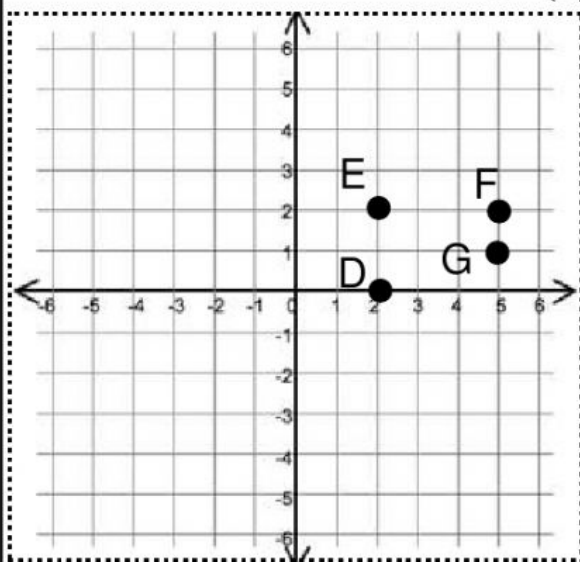
D (,)	D' (,)
E (,)	E' (,)
F (,)	F' (,)
G (,)	G' (,)



#2

Rotate figure DEFG 90° counter-clockwise

D (2,0) E(2,2) F(5,2) G(5,1)



Pre-Image

Image

D (,)	D' (,)
E (,)	E' (,)
F (,)	F' (,)
G (,)	G' (,)



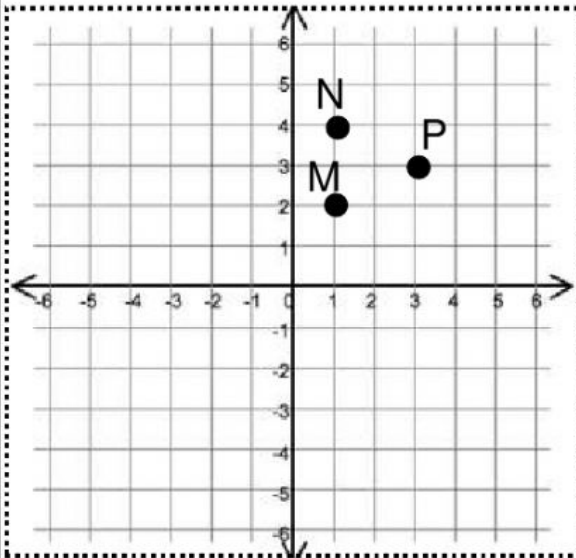
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Rotations

#3

Rotate figure MNP 180° Clockwise

M (1,2) N(1,4) P(3,3)



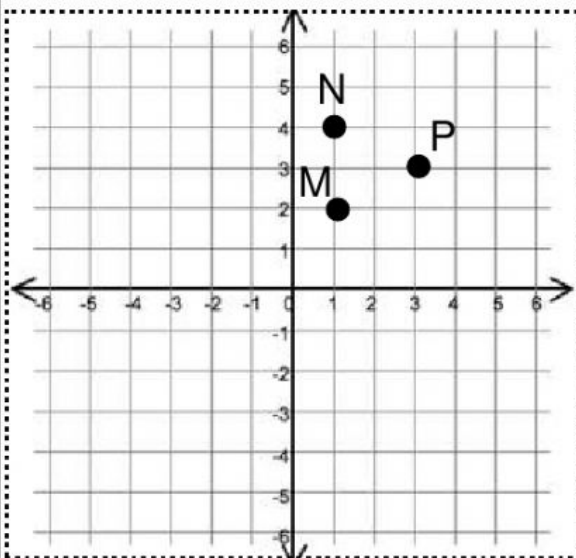
<u>Pre-Image</u>	<u>Image</u>
M (,)	M' (,)
N (,)	N' (,)
P (,)	P' (,)



#4

Rotate figure MNP 180° Counter-Clockwise

M (1,2) N(1,4) P(3,3)



<u>Pre-Image</u>	<u>Image</u>
M (,)	M' (,)
N (,)	N' (,)
P (,)	P' (,)



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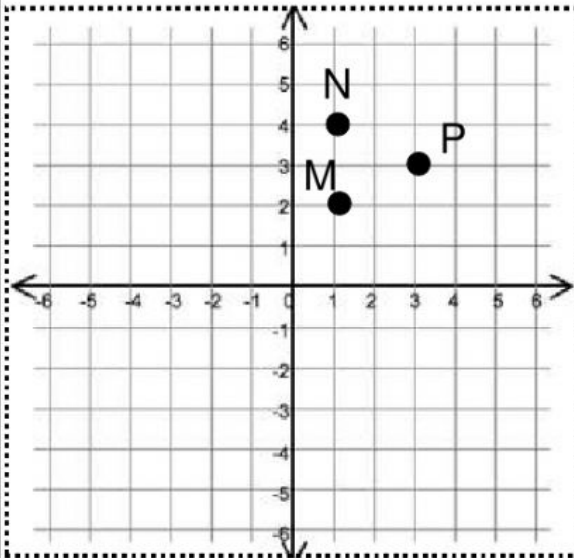
Rotations

10

#5

Rotate figure MNP 270° Clockwise

M (1,2) N(1,4) P(3,3)



Pre-Image

Image

M (,) M' (,)

N (,) N' (,)

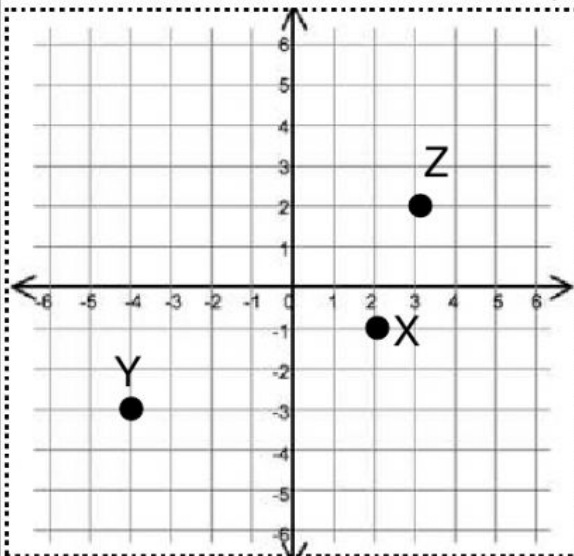
P (,) P' (,)



#6

Rotate figure XYZ 270° Counter-Clockwise

X(2,-1) Y(-4,-3) Z(3,2)



Pre-Image

Image

X (,) X' (,)

Y (,) Y' (,)

Z (,) Z' (,)



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Name : _____

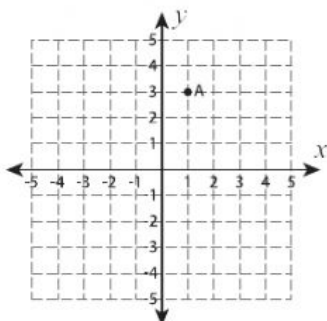
Score : _____

Rotate the point

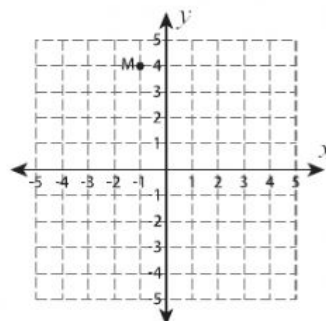
Sheet 1

Graph the new position of each point after rotating it about the origin.

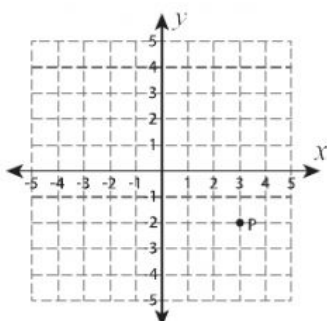
1) 90° clockwise rotation



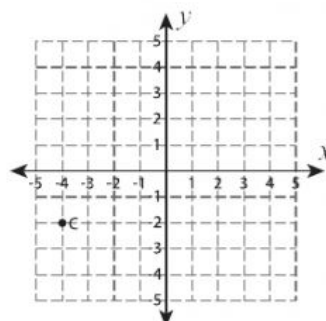
2) 180° rotation



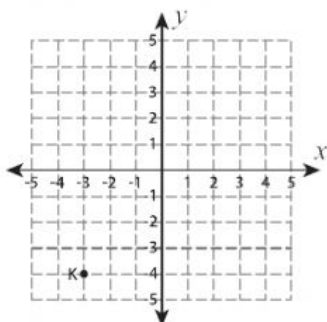
3) 90° counterclockwise rotation



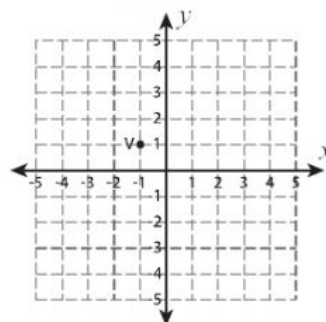
4) 90° clockwise rotation



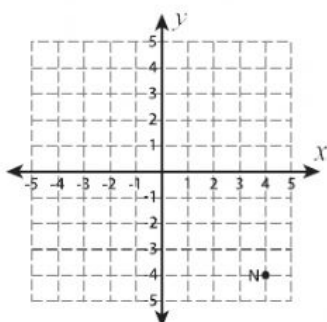
5) 180° rotation



6) 90° counterclockwise rotation



7) 90° clockwise rotation



8) 180° rotation

