

The Hidden Formulas of Transformation with Reflection, Translation, Rotation and Dilation

Lesson 052 | Geometry | Geometric transformations and tessellations

https://www.youtube.com/watch?v=_s-8BQWY0lc

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

For $P=(3,13)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-7)$; dilation of scale 7 about the origin.

02

For $P=(2,10)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(5,-12)$; dilation of scale 4 about the origin.

03

For $P=(3,5)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-12)$; dilation of scale 2 about the origin.

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04

For $P=(4,11)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-13)$; dilation of scale 4 about the origin.

05

For $P=(11,7)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-2)$; dilation of scale 3 about the origin.

06

For $P=(5,9)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(9,-2)$; dilation of scale 3 about the origin.

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01

For $P=(3,13)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-7)$; dilation of scale 7 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(13,3)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-13,3)$. Translate: $(7,6)$. Dilate: $(21,91)$.

02

For $P=(2,10)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(5,-12)$; dilation of scale 4 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(10,2)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-10,2)$. Translate: $(7,-2)$. Dilate: $(8,40)$.

03

For $P=(3,5)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-12)$; dilation of scale 2 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(5,3)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-5,3)$. Translate: $(7,-7)$. Dilate: $(6,10)$.

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04

For $P=(4,11)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-13)$; dilation of scale 4 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(11,4)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-11,4)$. Translate: $(8,-2)$. Dilate: $(16,44)$.

05

For $P=(11,7)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(4,-2)$; dilation of scale 3 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(7,11)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-7,11)$. Translate: $(15,5)$. Dilate: $(33,21)$.

06

For $P=(5,9)$, find its image under: reflection across $y=x$; 90° counterclockwise rotation about the origin; translation by $(9,-2)$; dilation of scale 3 about the origin.

Reflect $(x,y) \rightarrow (y,x)$: $(9,5)$. Rotate $(x,y) \rightarrow (-y,x)$: $(-9,5)$. Translate: $(14,7)$. Dilate: $(15,27)$.