

Watch. Practice. Understand. | Lesson 023

Summer Geometry Semester 2 Unit 3 Tranforamtion Part 1

Watch the matching video: <https://www.youtube.com/watch?v=LZ0rSDLjfRg>

Practice focus: Geometric transformations and tessellations

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Reflect $(3, -2)$ across the y -axis.

02 Rotate $(3, -2)$ 90° counterclockwise about the origin.

03 Dilate $(3, -2)$ by factor 2 about the origin, then translate by $(-1, 4)$.

04 Can congruent regular pentagons tile the plane edge-to-edge by themselves? Explain.

Worked answers | Lesson 023

Summer Geometry Semester 2 Unit 3 Transformation Part 1

Watch the matching video: <https://www.youtube.com/watch?v=LZ0rSDLjfRg>

Practice focus: Geometric transformations and tessellations

Original extra practice matched to the listed lesson topic.

01 Reflect $(3, -2)$ across the y -axis.

Negate x : $(-3, -2)$.

02 Rotate $(3, -2)$ 90° counterclockwise about the origin.

Use $(x, y) \rightarrow (-y, x)$: $(2, 3)$.

03 Dilate $(3, -2)$ by factor 2 about the origin, then translate by $(-1, 4)$.

Dilation gives $(6, -4)$; translation gives $(5, 0)$.

04 Can congruent regular pentagons tile the plane edge-to-edge by themselves? Explain.

No. Each interior angle is 108° , and $360/108$ is not an integer, so angles cannot close around a vertex.