

Geometry: Transformations and Law of Cosines

Mathematics · Answer Key · 10 Questions

1. What is the standard form of the Law of Cosines to find side a?

A) $a^2 = b^2 + c^2 - 2bc \cos A$

B) $a^2 = b^2 + c^2 + 2bc \cos A$

C) $a^2 = b^2 - c^2 - 2bc \cos A$

D) $a^2 = c^2 - b^2 - 2bc \cos A$

2. In geometry, what is the movement of a figure in the Cartesian plane called?

A) Reflection

B) Rotation

C) Transformation

D) Translation

3. Which transformation slides a figure without turning or flipping it?

A) Rotation

B) Reflection

C) Translation

D) Dilation

4. What is the general coordinate rule for a translation of a point $P(x, y)$?

A) $P'(x-a, y-b)$

B) $P'(x+a, y+b)$

C) $P'(ax, by)$

D) $P'(x/a, y/b)$

5. What is the formal definition of reflection in geometry?

A) Turning a figure

B) Flipping a figure over a line

C) Sliding a figure

D) Resizing a figure

6. What is the term for the initial image before a transformation occurs?

A) Final image

B) Reflection

C) Pre-image

D) Coordinate

7. What is the coordinate rule for rotating a point 90 degrees counterclockwise about the origin?

A) $(x, y) \rightarrow (y, -x)$

B) $(x, y) \rightarrow (-y, x)$

C) $(x, y) \rightarrow (-x, -y)$

D) $(x, y) \rightarrow (x, -y)$

8. What is the coordinate rule for rotating a point 180 degrees about the origin?

A) $(x, y) \rightarrow (-x, -y)$

B) $(x, y) \rightarrow (-y, x)$

C) $(x, y) \rightarrow (y, x)$

D) $(x, y) \rightarrow (x, -y)$

9. What is the coordinate rule for rotating a point 270 degrees counterclockwise about the origin?

A) $(x, y) \rightarrow (-y, x)$

B) $(x, y) \rightarrow (y, -x)$

C) $(x, y) \rightarrow (-x, y)$

D) $(x, y) \rightarrow (x, y)$

10. What is the fixed point around which a figure is turned during rotation called?

A) Origin

B) Center of rotation

C) Vertex

D) Midpoint