

Transformations

1. Translations with alternate notations
2. Corresponding angles, points, sides after rigid transformations
3. Use in proofs
 - (a) Reflection or rotation of a line segment
 - (b) Rigid
 - (c) Triangle midlines
 - (d) Notation, standard "justify" language
4. Dilation impact on lengths, area, angles (volume)

Translations

1. Calculating results as coordinate pairs
2. Prime notation
3. Multiple transformations
4. Triangle $A'B'C'$ is the image of triangle ABC after a translation of 2 units to the right and 3 units up. Is triangle ABC congruent to triangle $A'B'C'$? Explain why.

$\triangle ABC$ must be congruent to $\triangle A'B'C'$ because a translation is a basic rigid motion which preserves angle measure and side length. Therefore the 2 \triangle 's have all corresponding parts congruent.

Yes, the \triangle 's are \cong because a translation is a rigid motion so it preserves side lengths. ~~and angle measures~~
Because corr. sides have the same lengths, the \triangle 's are \cong by SSS.

5. Symmetry: If when an object $A \rightarrow A'$ and $A = A'$ then we say it is symmetric.

Reflection: *axis of symmetry*

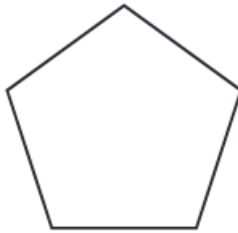
Rotation: *center and angle of rotation*

Example: Regular polygons are symmetrical

Which transformation would *not* carry a square onto itself?

- (1) a reflection over one of its diagonals
- (2) a 90° rotation clockwise about its center
- (3) a 180° rotation about one of its vertices
- (4) a reflection over the perpendicular bisector of one side

The regular polygon below is rotated about its center.



Which angle of rotation will carry the figure onto itself?