

Transformations

create an image like $\triangle ABC \rightarrow \triangle A'B'C'$

Rigid Transformations

preserve distance and angle (congruent)

also called isometry

Non-rigid transformation

does not preserve shape & size (angle & distance)

Translations

is

a rigid transformation where all points move the same distance in the same direction

Key words: translation vector, distance, direction

Rotations

is

a rigid transformation where all the points rotate (turn) a specific # of degrees around a center point

Key words: degrees, center of rotation, clockwise, counterclockwise

Reflections

is

a rigid transformation where all the points move across a line the same distance that they are from the line.

Key words: line of reflection, symmetry (mirror image)

~~Reflected~~ Connected original and image points make parallel paths. The figures are congruent. Preserves orientation. $(x, y) \rightarrow (x+2, y-3)$ or $\langle 2, -3 \rangle$ means move right 2, down 3

They are congruent. Preserves orientation.

Reflected figures are congruent. Lines connecting original & image points are parallel and the line of symmetry \perp bisects those parallel segments. Does not preserve orientation, has opposite orientation. (Clockwise becomes counterclockwise)