# Answer on Question #64435 – Math – Geometry

## Question

Which of the following transformations will always produce a congruent figure?
A.
expansion
B.
contraction
C.
dilation
D.
reflection

## Solution

A reflection over a line k is a transformation in which each point of the original figure (pre-image) has an image that is the same distance from the line of reflection as the original point but is on the opposite side of the line. Remember that a reflection is a flip. Under a reflection, the figure does not change size.
Rotations, reflections, and translations are isometric. That means that these transformations do not change the size of the figure. If the size and shape of the figure is not changed, then the figures are congruent.
Dilation is a transformation that produces an image that is the same shape as the original, but is a different size.
Expansion is dilation with a scale factor greater than 1.
(Dilation used to create an image larger than the original is called an enlargement.)
Contraction is dilation with a scale factor of less than 1 but greater than 0.
(Dilation used to create an image smaller than the original is called a reduction.)
The correct answer is D. reflection

**Answer:** D. reflection