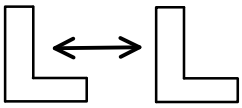
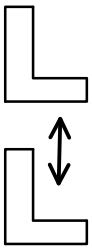
M9 - 1.0 - Tra/Ref/Exp/Comp/Sym/Rot/Order

Translations

Horizontal



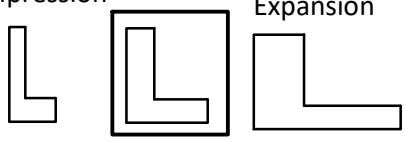
Vertical



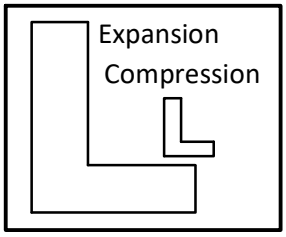
Vertical Compression

Horizontal Compression

Horizontal Expansion

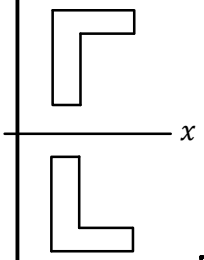


Vertical Expansion

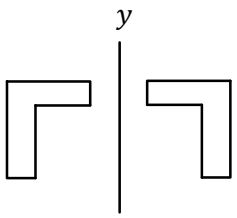


Reflections

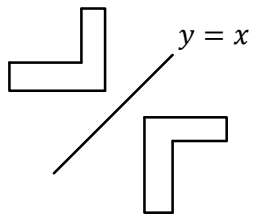
Vertical



Horizontal



Oblique



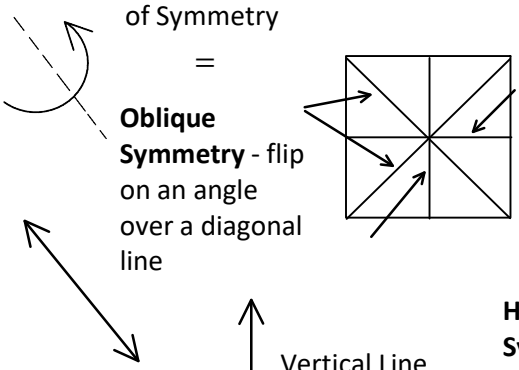
Keep same distance from axis

Types of Symmetry

Oblique Line of Symmetry

=

Oblique Symmetry - flip on an angle over a diagonal line



Horizontal Line of Symmetry

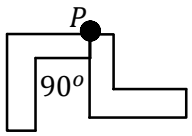
=

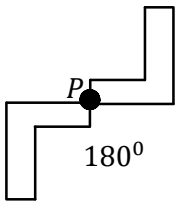
Vertical Symmetry- flip vertically over a horizontal line

Vertical Line of Symmetry =

Horizontal Symmetry - flip horizontally over a vertical line.

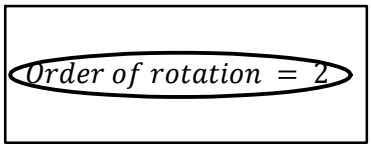
Rotation @ P

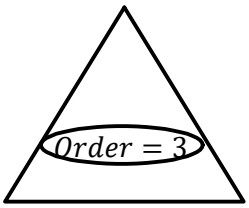




Order of Rotation: The number of times you can rotate the shape to be identical to its original orientation in one circle of rotation 360^o. $\angle$ **: *angle***

$$Order\ of\ Rotation = \frac{360^o}{\angle\ of\ rotation} \qquad \angle\ of\ Rotation = \frac{360^o}{Order\ of\ rotation}$$





$$Angle\ of\ Rotation = \frac{360^o}{2}$$

$$Angle\ of\ Rotation = 180^o$$

If you rotate a rectangle 180^o, it is in the same orientation it started.

$$Angle\ of\ Rotation = \frac{360^o}{3}$$

$$Angle\ of\ Rotation = 120^o$$

If you rotate an equilateral triangle 120^o, it is in the same orientation it started.