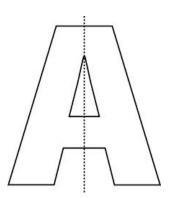


## **SYMMETRY**

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# **Introduction to Symmetry**



Symmetry conveys two primary meanings.

The first is an imprecise sense of harmonious or aesthetically pleasing proportionality and balance such that it reflects beauty or perfection.

The second meaning is a precise and well-defined concept of balance or "patterned self-similarity" that can be demonstrated or proved according to the rules of a formal system.

# **Making Symmetric figures: Ink-Blot Devils**



- 1. Take a piece of paper. Fold it in half
- 2. Spill a few drops of ink on one half side
- 3. Press the halves together

The resulting figure will be symmetry and there will be alone for symmetry.

## **Inked string Patterns**

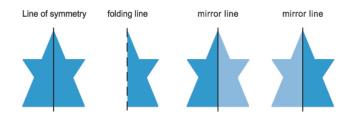


- 2. On One half-portion arrange short lengths of strings dipped in a variety of colored inks or pants.
- 3. Now press the two halves

The result will be a symmetric figure and we can find in how many ways it can be folded to produce two identical halves.

## **Reflection and Symmetry**

<u>Line symmetry</u> and<u>mirror reflection</u> are naturally related and linked to each other.



The object and its image are symmetrical with reference to the

mirror line. If the paper is folded, the mirror line becomes the line of symmetry.

A figure has line symmetry if a line can be drawn dividing the figure into two identical parts. The line is called a line of symmetry.

A figure may have no line of symmetry, only one line of symmetry, two lines of symmetry or multiple lines of symmetry.

We will understand this concept with the help of following examples:

## **No line of Symmetry**

Let's look at the alphabets:

F, G, J, K, L, N, P, Q, R, S, Z these are the alphabets which have no line of symmetry.

A scalene triangle is a triangle which has no lie of symmetry.

## One line of Symmetry

Now, we will look for those alphabets which have only one line of symmetry:

A, B, C, D, E, M, T, U, V, W, Y - alphabets which have only one line of symmetry.

An isosceles triangle has only one line of symmetry.

## Two lines of Symmetry

Now, we will look for those alphabets which have two lines of symmetry:

H, I, X – alphabets which have two lines of symmetry.

A rectangle has two lines of symmetry.

### **Multiple lines of Symmetry**

There is only one alphabet which has <u>multiple lines of symmetry</u> and that is 'O'.

An equilateral triangle has three lines of symmetry.

Now try it yourself! Should you still need any help, click here to schedule live online session with e Tutor!

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### **Reference Links:**

- <a href="http://en.wikipedia.org/wiki/Symmetry">http://en.wikipedia.org/wiki/Symmetry</a>
- http://wiki.answers.com/Q/What is a line of symmetry
- http://en.wikipedia.org/wiki/Reflection\_symmetry
- http://wiki.answers.com/Q/How\_many\_lines\_of\_symmetry\_does\_a\_circle\_have

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