**Line of Symmetry**

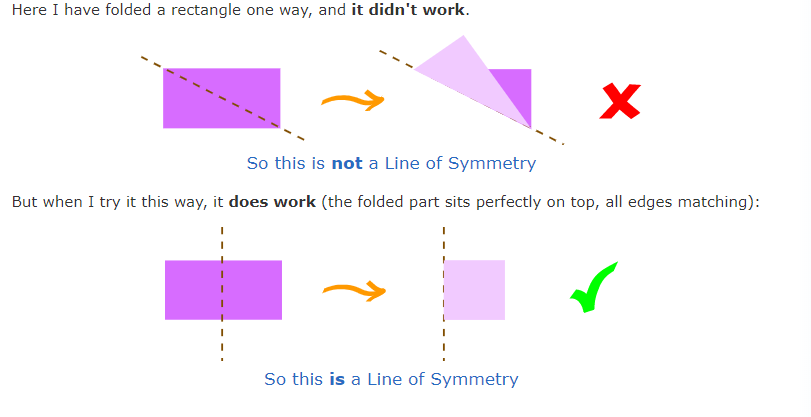
|  |  |  |
| --- | --- | --- |
| dog mirror |  | Here my dog "Flame" has her face made perfectly symmetrical with a bit of photo magic.  The white line down the center is the **Line of Symmetry** |

Read more at [Reflection Symmetry](https://www.mathsisfun.com/geometry/symmetry-reflection.html).

**Folding Test**

You can find if a shape has a Line of Symmetry by**folding it**.

When the folded part sits perfectly on top (all edges matching), then the fold line is a Line of Symmetry.



**Triangles**

A [Triangle](https://www.mathsisfun.com/triangle.html) can have **3**, or **1** or **no** lines of symmetry:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| symmetry equilateral triangle |  | symmetry isosceles triangle |  | no symmetry scalene triangle |
| **Equilateral Triangle** (all sides equal, all angles equal) |  | **Isosceles Triangle** (two sides equal, two angles equal) |  | **Scalene Triangle** (no sides equal, no angles equal) |
| **3** Lines of Symmetry |  | **1** Line of Symmetry |  | **No** Lines of Symmetry |

**Quadrilaterals**

Different types of [Quadrilaterals](https://www.mathsisfun.com/quadrilaterals.html) (a 4-sided plane shape):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| symmetry square |  | symmetry rectangle |  | symmetry irregular quad |
| **Square** (all sides equal, all angles 90°) |  | **Rectangle** (opposite sides equal, all angles 90°) |  | **Irregular Quadrilateral** |
| **4** Lines of Symmetry |  | **2** Lines of Symmetry |  | **No** Lines of Symmetry |

|  |  |  |
| --- | --- | --- |
| symmetry kite |  | symmetry rhombus |
| **Kite** |  | **Rhombus** (all sides equal length) |
| **1** Line of Symmetry |  | **2** Lines of Symmetry |

**Regular Polygons**

A regular [polygon](https://www.mathsisfun.com/geometry/polygons.html) has all sides equal, and all angles equal:

|  |  |  |
| --- | --- | --- |
| symmetry equilateral triangle | An **Equilateral Triangle** (3 sides) has **3** Lines of Symmetry |  |
|  | symmetry square | A **Square** (4 sides) has **4** Lines of Symmetry |
| symmetry regular pentagon | A **Regular Pentagon** (5 sides) has **5** Lines of Symmetry |  |
|  | symmetry regular hexagon | A **Regular Hexagon** (6 sides) has **6** Lines of Symmetry |
| symmetry regular septagon | A **Regular Heptagon** (7 sides) has **7** Lines of Symmetry |  |
|  | symmetry regular octagon | A **Regular Octagon** (8 sides) has **8** Lines of Symmetry |

And the pattern continues:

* A regular polygon of **9** sides has **9** Lines of Symmetry
* A regular polygon of **10** sides has **10** Lines of Symmetry
* ...
* A regular polygon of **"n"** sides has **"n"** Lines of Symmetry

|  |  |  |
| --- | --- | --- |
| **Circle**  A line (drawn at any angle) that goes through its centre is a Line of Symmetry.  So a Circle has**infinite** Lines of Symmetry. | | |
|  |  | circle symmetry | |

**Challenges:**

1. Find something outside that has one line of symmetry.
2. Find something outside that has more than one line of symmetry.
3. Create your own symmetrical pictures and designs with one or more than one line of symmetry - There is an example of some outdoor symmetry designs below.

