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 Fold-and-Cut-Magic



 **Pattern Notations**

* Bold lines are the desired cuts, so you should not fold along them.
* The thin outside rectangle located on some patterns is the intended boundary of the paper. You can cut the paper to those limits after printing if you wish.
* The dashed lines are “valley” folds and should be folded towards you.
* The dot-dashed lines are “mountain” folds and should be folded away from you.
* Some patterns may include a middle line of symmetry. Mountain fold along such a line before you do anything (including pre-creasing).

For other fold-and-cut examples:

http://erikdemaine.org/foldcut/examples/

 **Theorem**

Every pattern (plane graph) can be made by first folding and then making one complete straight cut. Such patterns include single (possibly non-convex) polygons, multiple disjoint polygons, nested polygons, adjoining polygons, and even floating line segments and points.

 **Recommended Folding Procedure**

* Print the pattern as large as possible.
* Pre-crease all the creases (dashed and dot-dashed) by pinching the paper and making sure that you follow along the printed lines.
* Reverse the valley (dashed) creases, so that all creases have their proper orientation.
* Collapse all the creases simultaneously. This can take some practice, especially on the more complex examples. However, with some effort you should be able to get it.