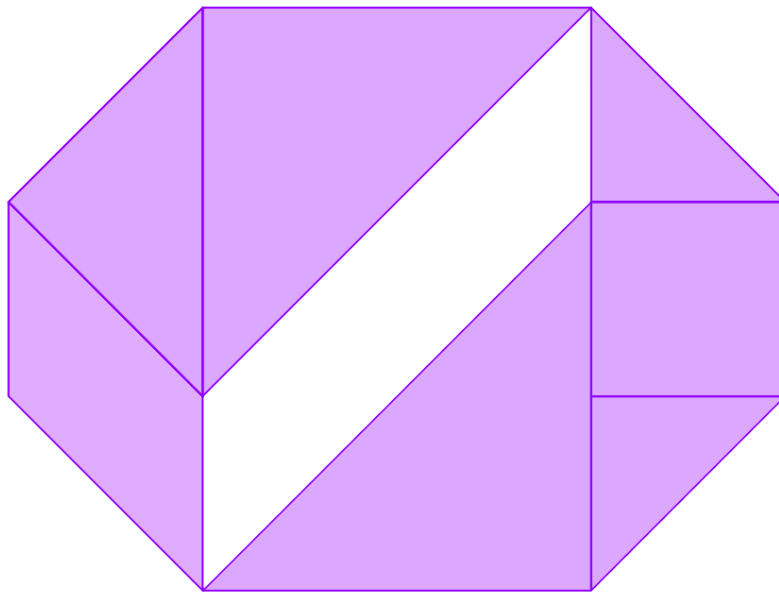


TANGRAM PUZZLES



Henri Picciotto
MathEducation.page

Introduction

This book is one in a large set of geometric puzzle books, all of which are available on my website (mathed.page/puzzles/puzzles.html) and can be downloaded freely for non-commercial use. It is intended to be the most accessible of the lot, with many puzzles suitable for very young children.

The puzzles are self-explanatory: cover each figure with tangrams. If there is more than one figure on a page, all of them must be covered at the same time. Naturally, solving the puzzles requires the use of physical tangrams, which are inexpensive and widely available from educational publishers.

The puzzles are organized in seven sets. Within each set, as much as possible, they are organized from easiest to most challenging. The sets themselves are also sequenced in rough order of difficulty. Set G is an exception: every figure requires the use of all seven pieces, so there are no easier puzzles in that set.

Note that many puzzles are related: solving some of them will help solve others.

The puzzles in this book are all geometric figures. I did not include any representational puzzles (animals, people, etc.), as those are easy to find online, and mostly do not contribute as much to students' geometric sense.

One way to organize the puzzles for the classroom is to make two or three copies of each and laminate them or put them in plastic covers. The puzzles can be stored in folders, with each folder including puzzles from one set. Students can choose puzzles from the folders during a dedicated *math lab* session during which other puzzles are also available to them (e.g. pentomino or supertangram puzzles).

Students should keep track of their progress on their own copy of the checklist (see next page).

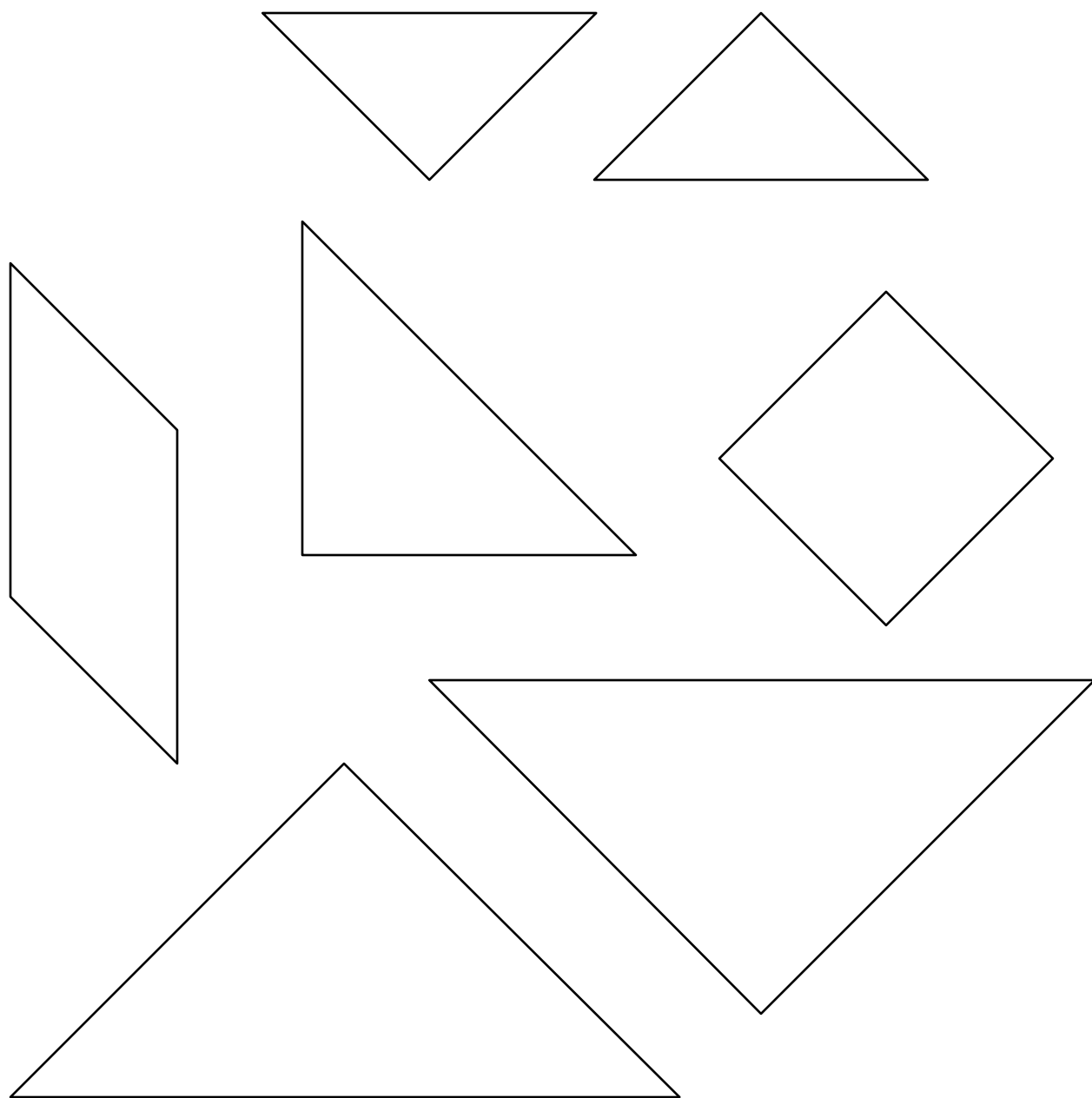
For ideas on how to put these activities in a broader context, involving both puzzles and geometry, see:

- ◇ my Tangrams home page (mathed.page/puzzles/tangrams.html)
- ◇ *Geometry Labs* (mathed.page/geometry-labs — Chapter 2, and Lab 10.6)
- ◇ a whole geometric puzzles unit (blog.mathed.page/2021/09/29/geometric-puzzles-unit/)

Note: It is important to print the puzzles without shrinkage, so you should make sure your printer's settings are such that all printing is done at 100%.

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The Seven Tangram Pieces



Name: _____

TANGRAM PUZZLES

Use this checklist to keep track of which puzzles you have solved:

Set A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

Set B

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Set C

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Set D

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Set E

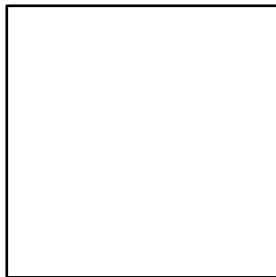
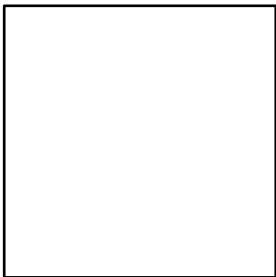
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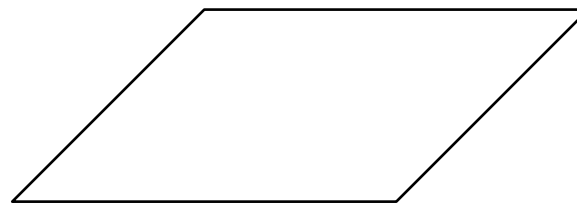
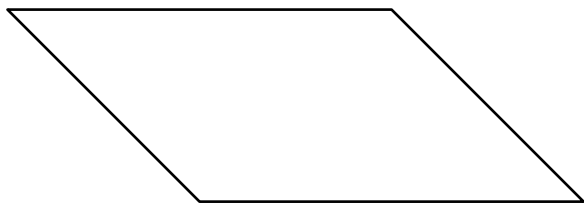
Set F

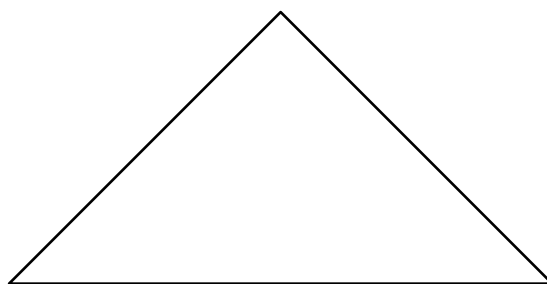
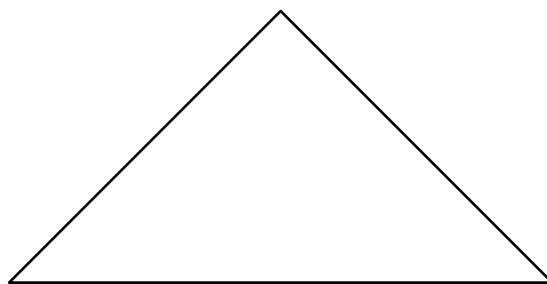
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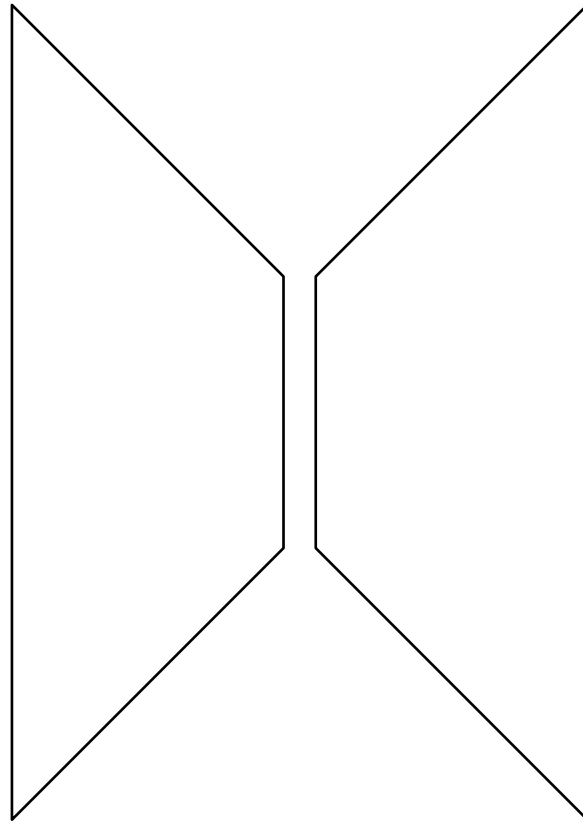
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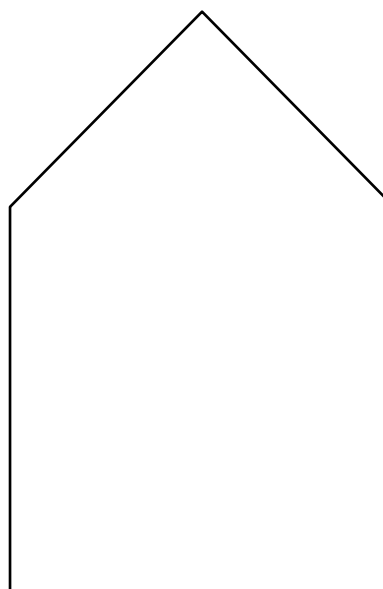
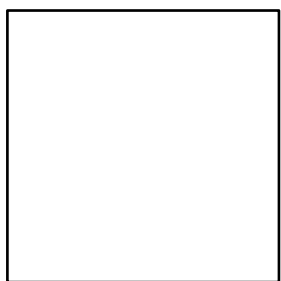
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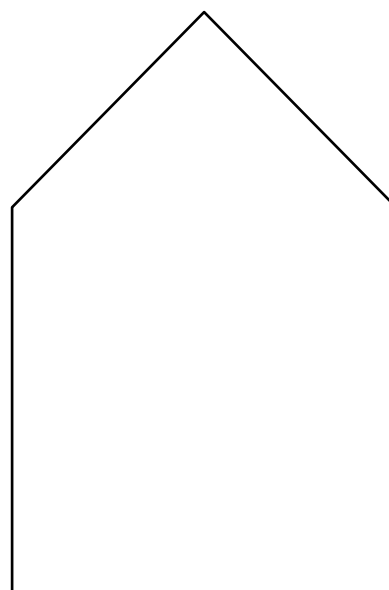
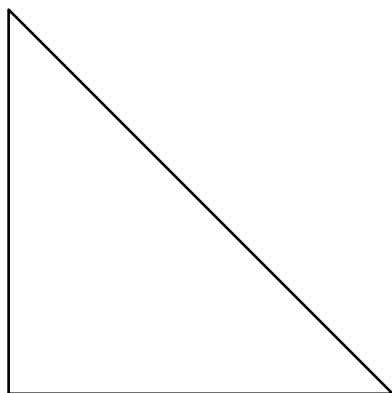


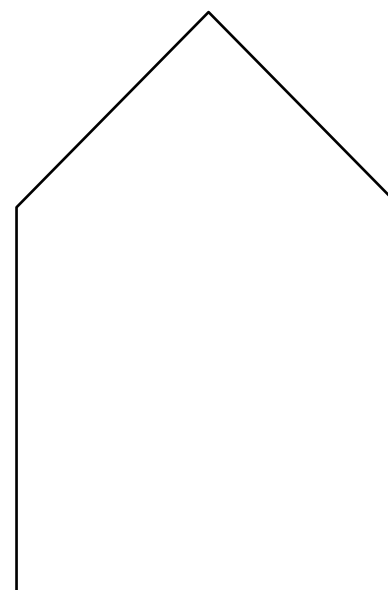
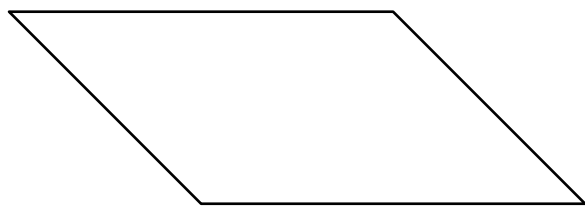


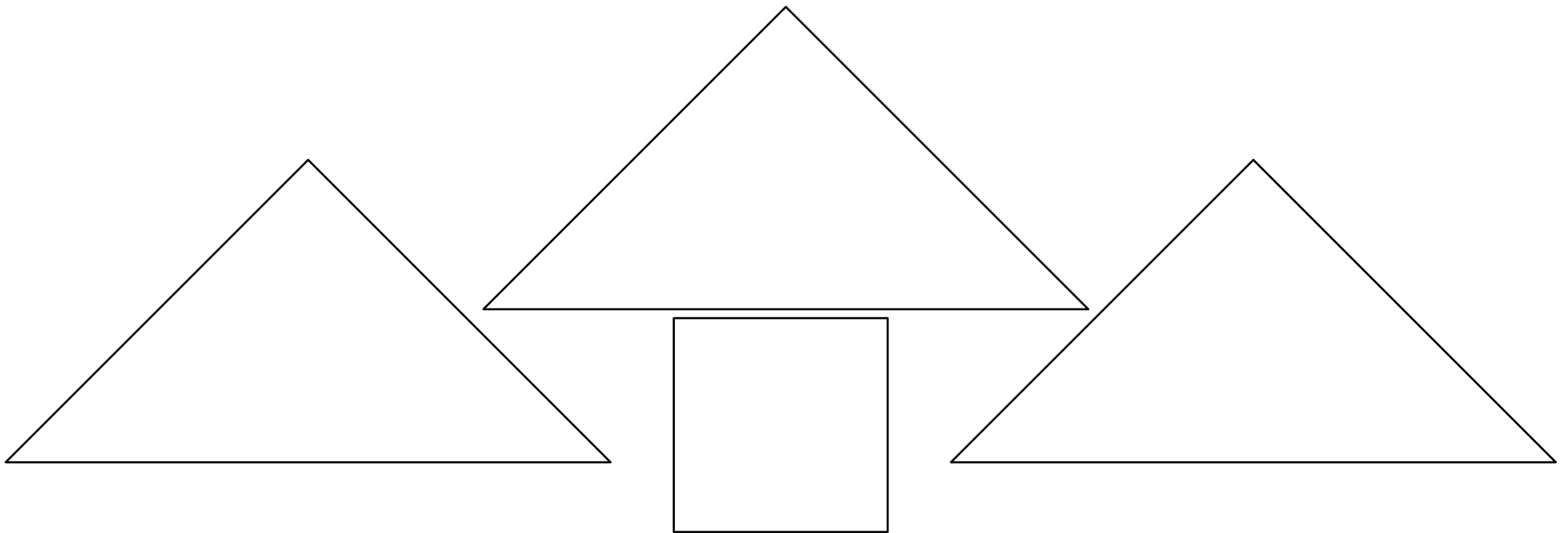
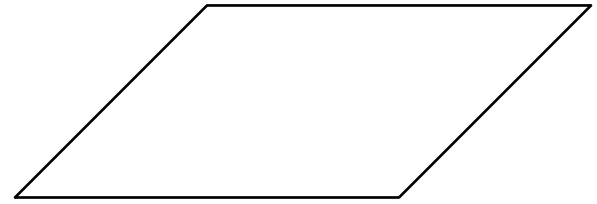


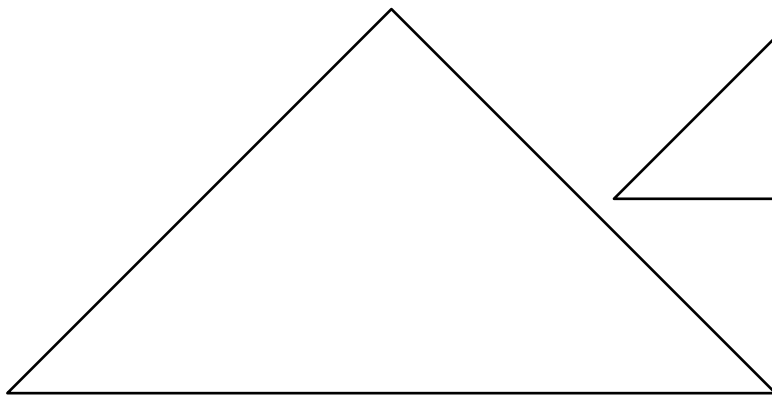
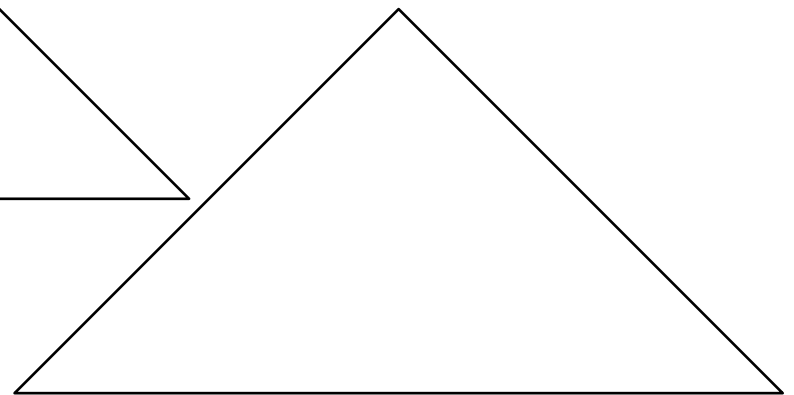
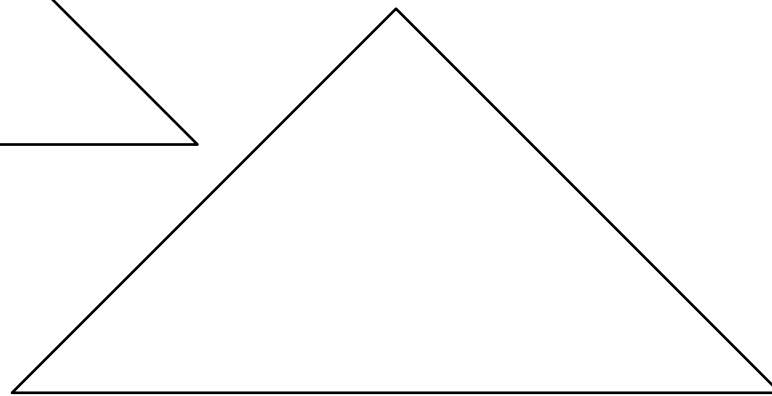
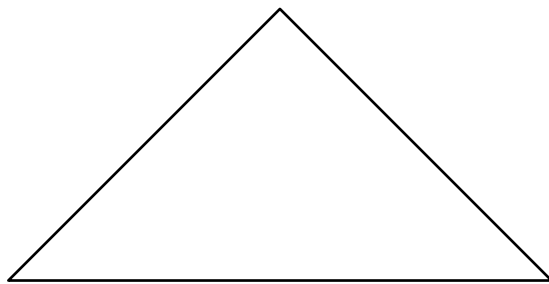
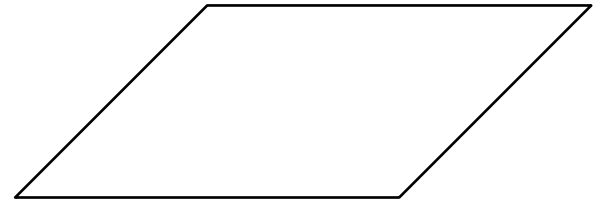


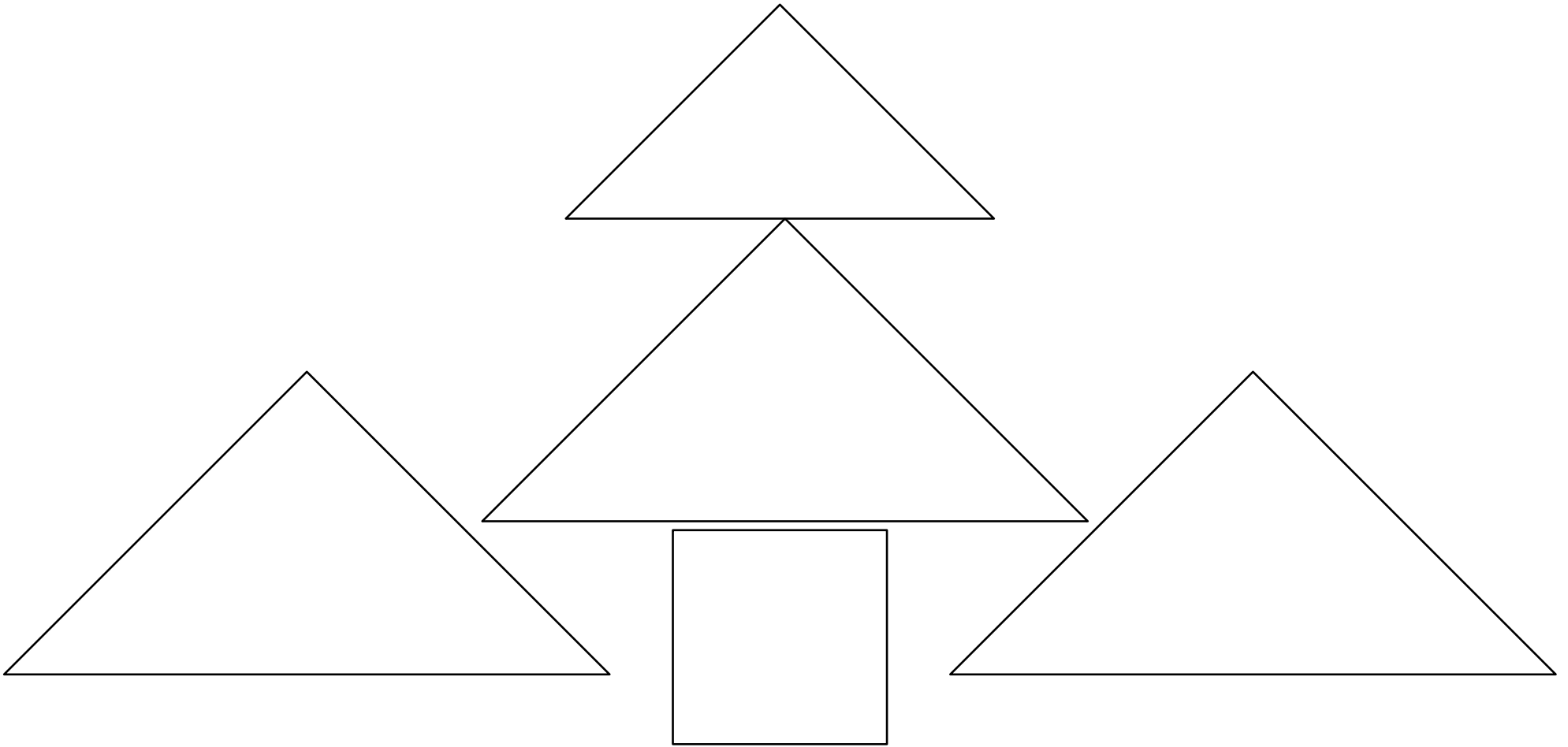


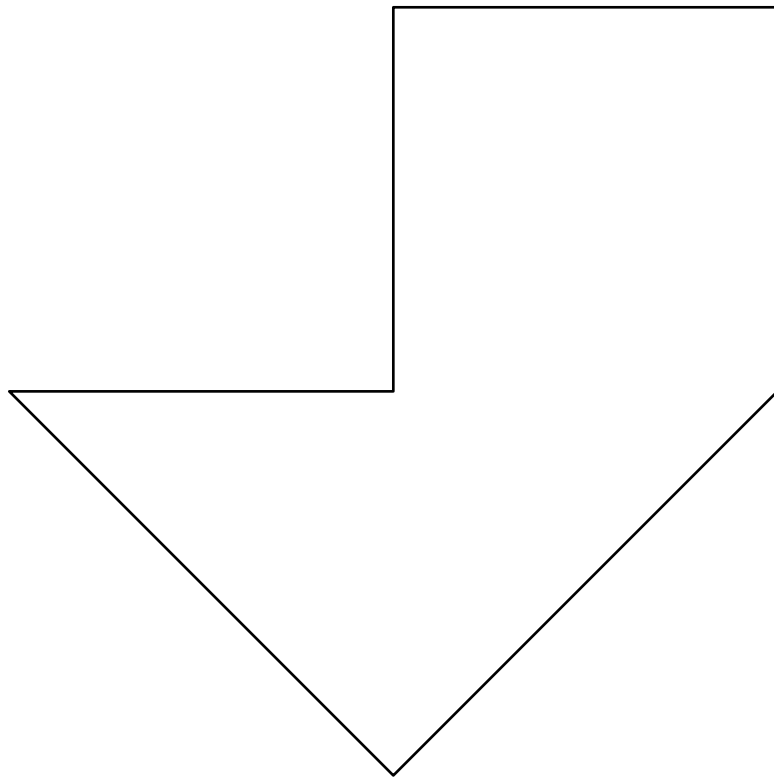
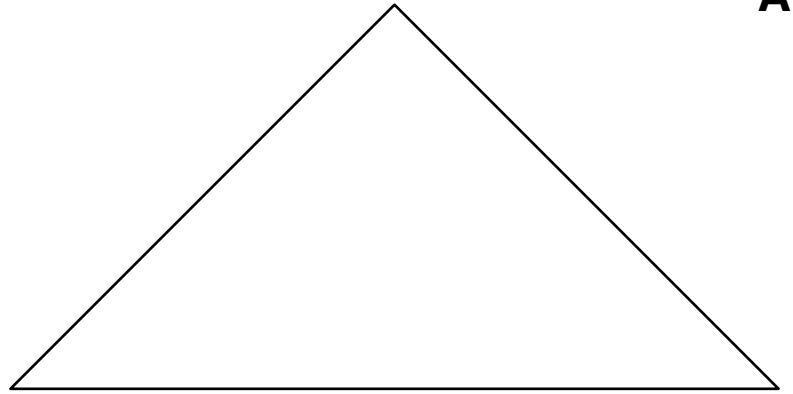
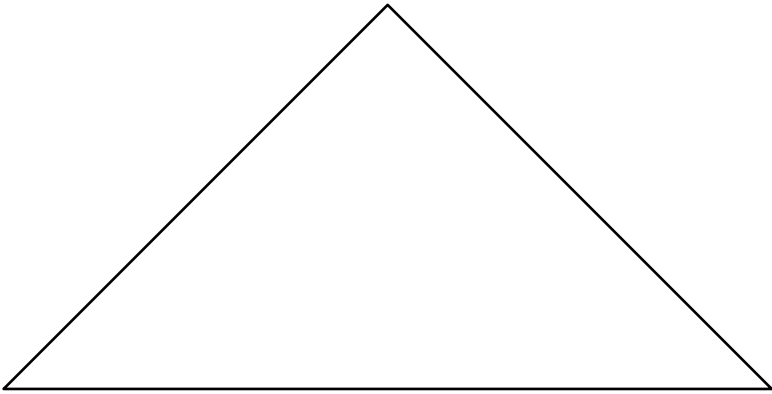


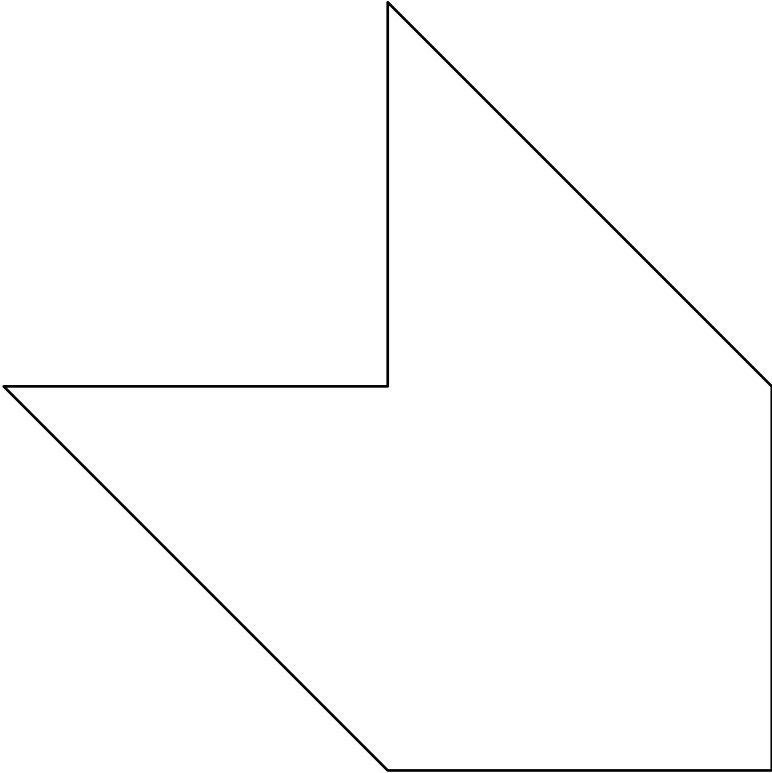
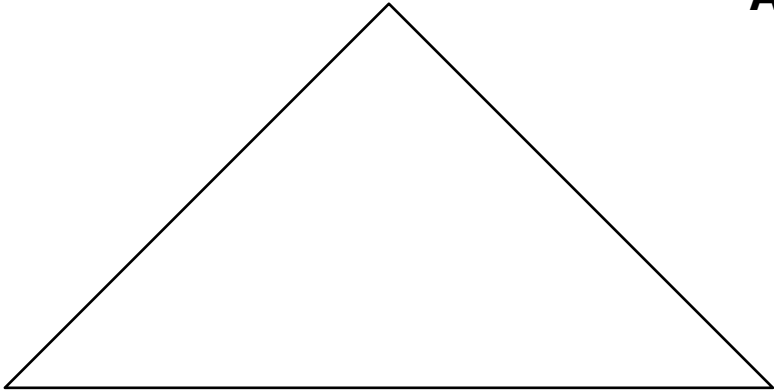
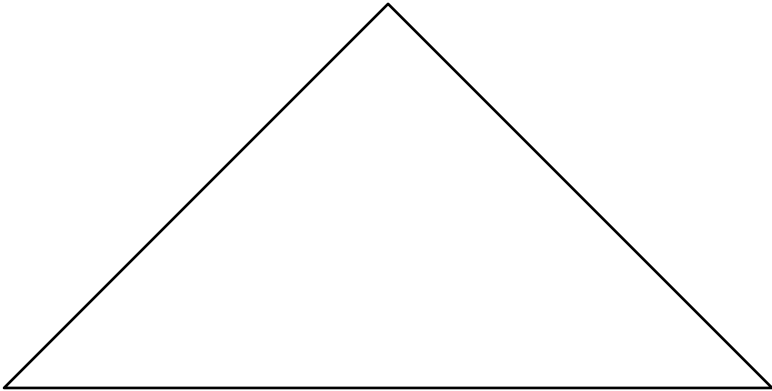


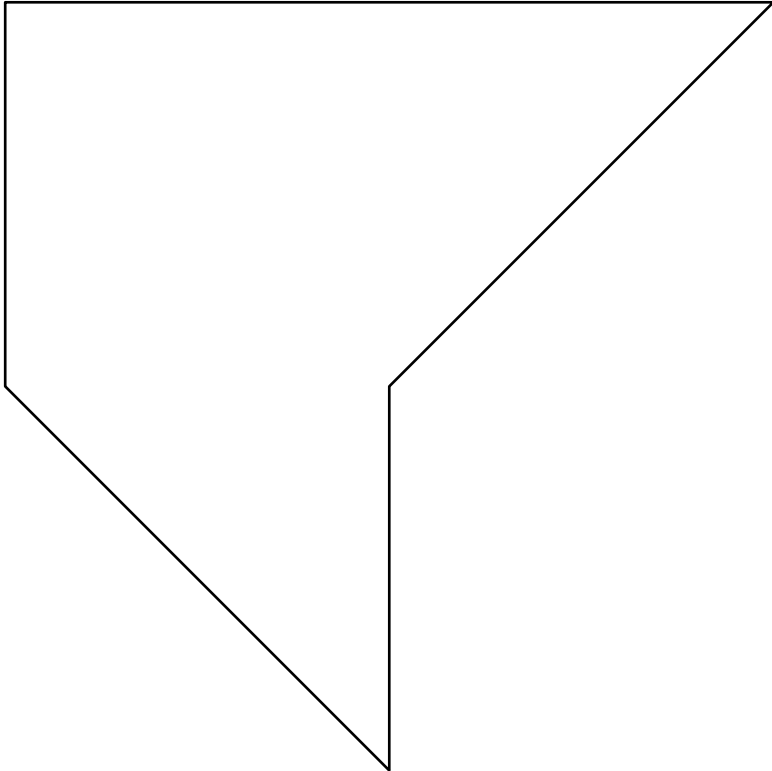
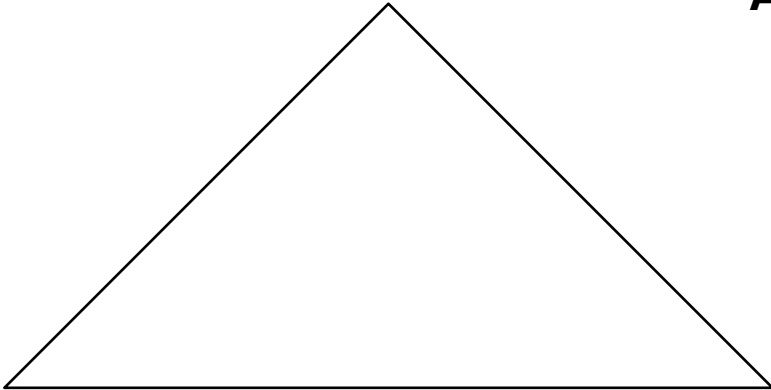
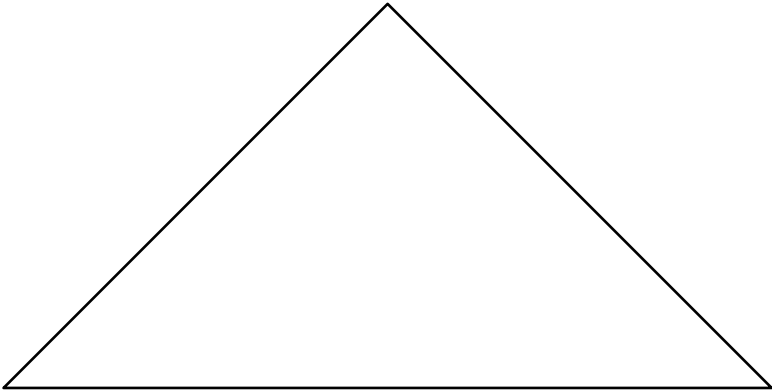


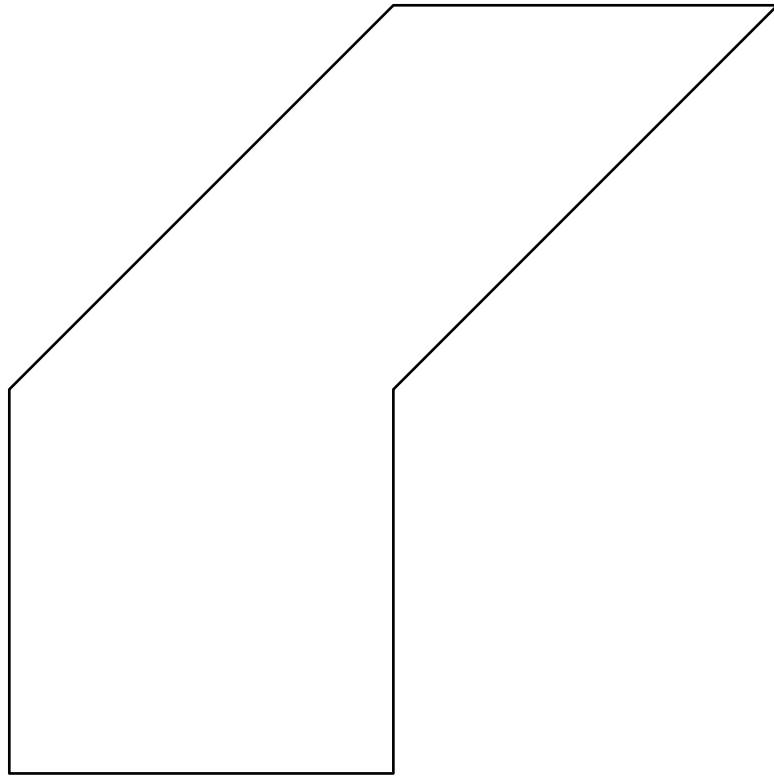
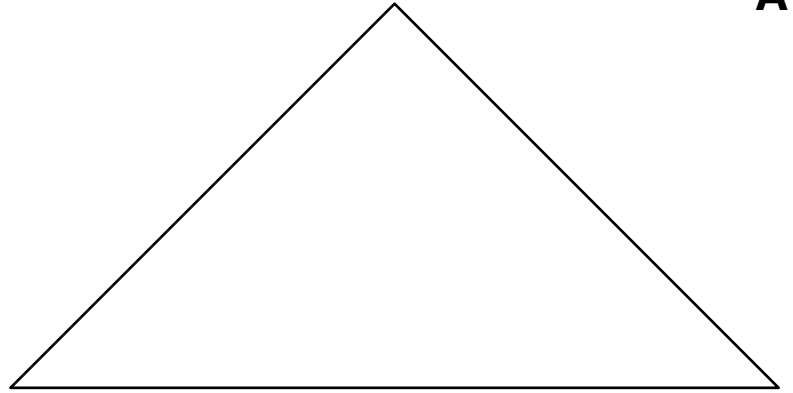
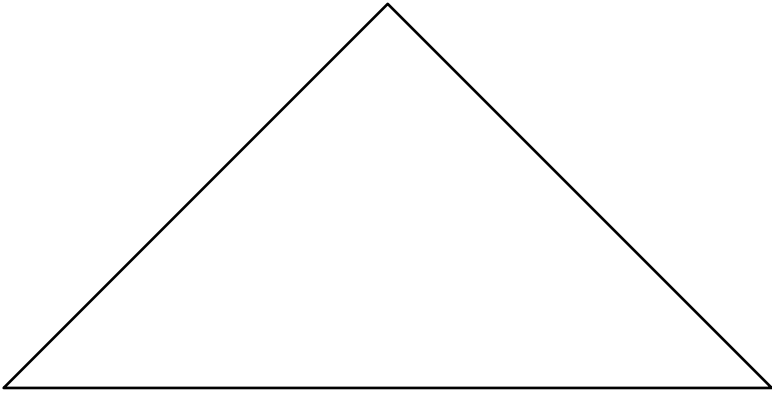


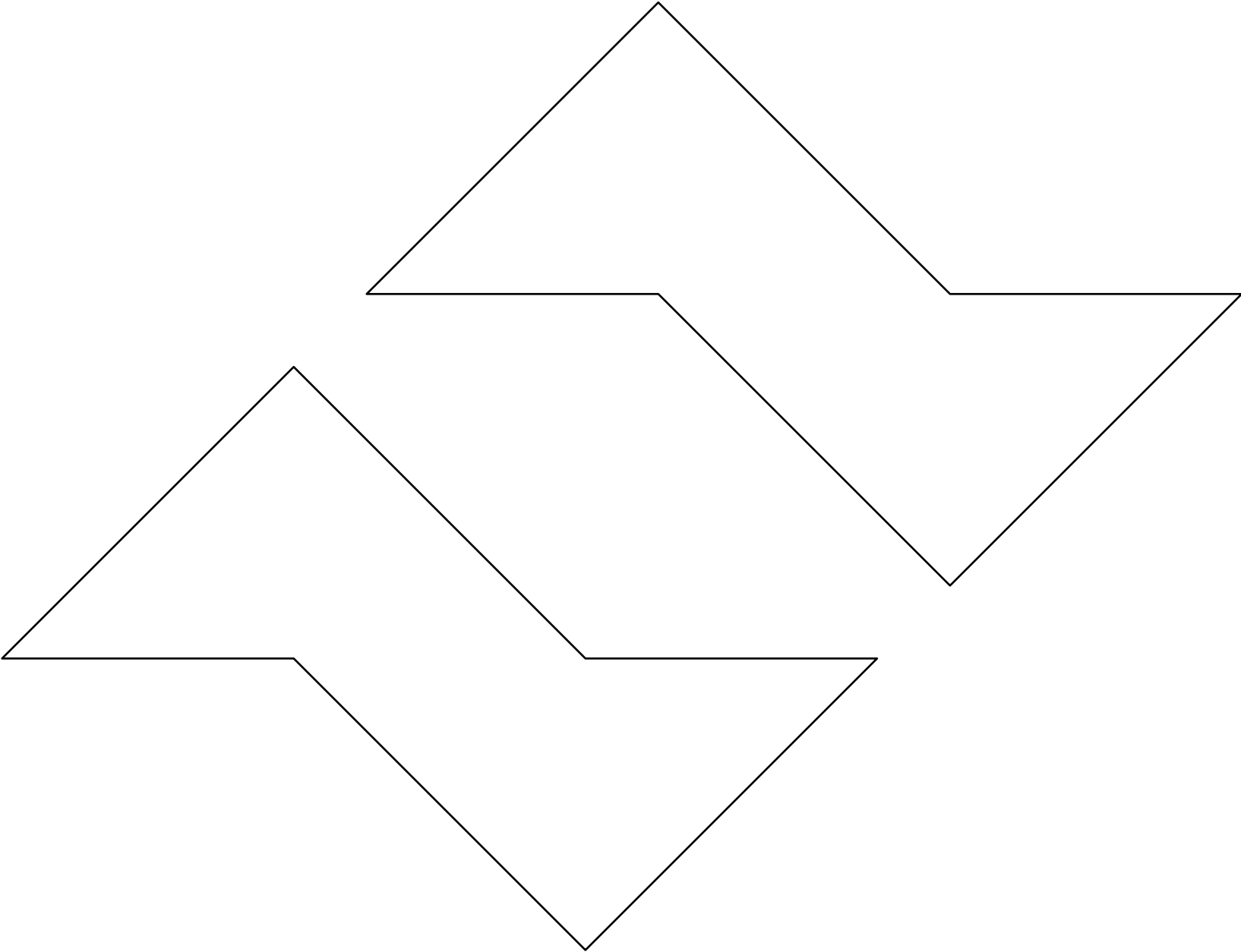


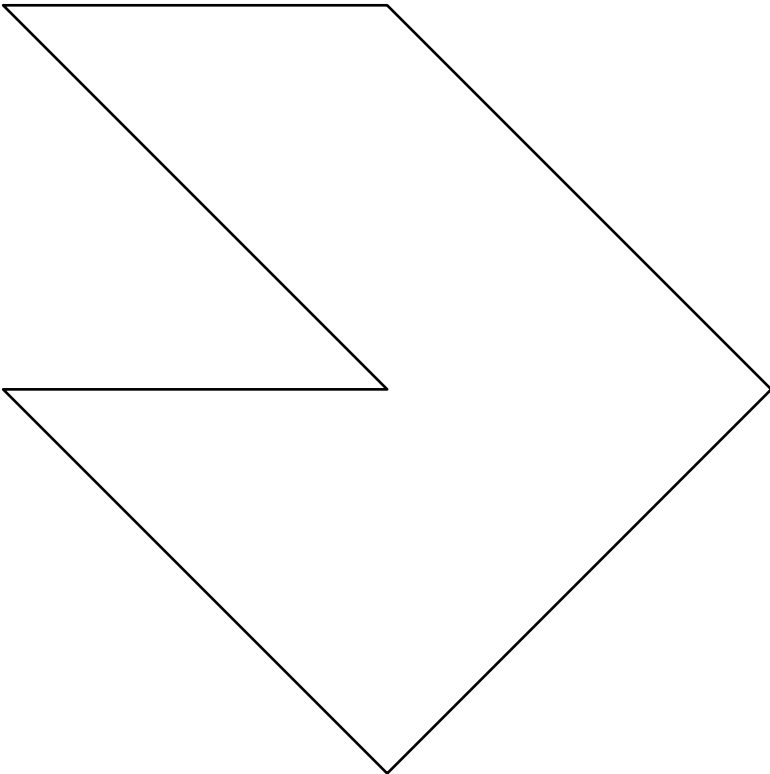
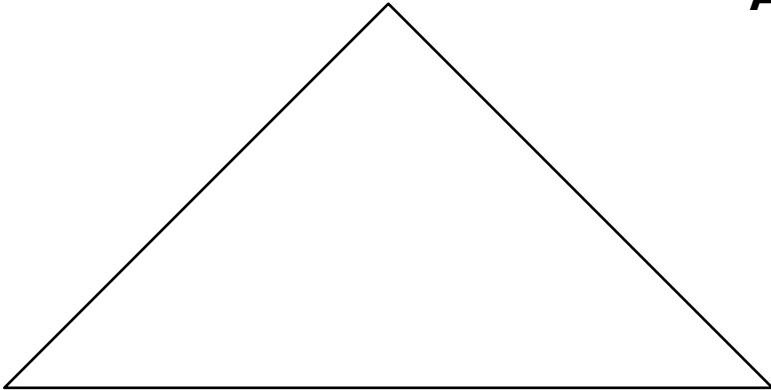
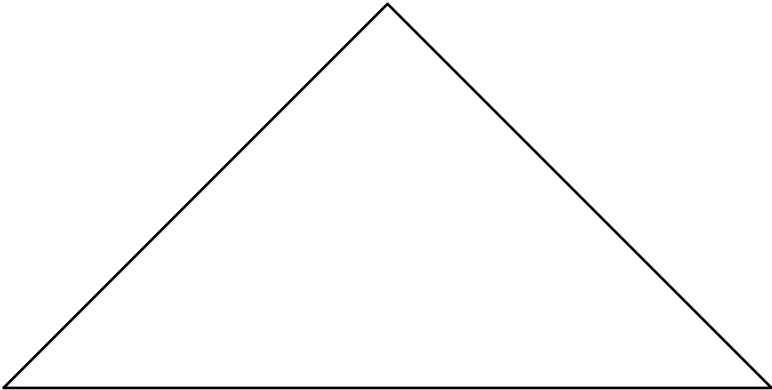


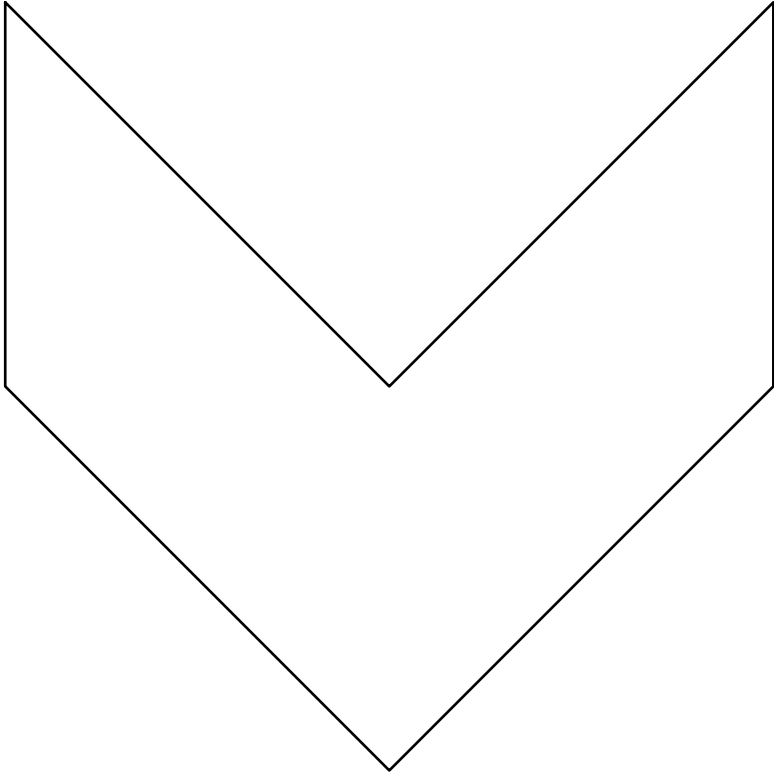
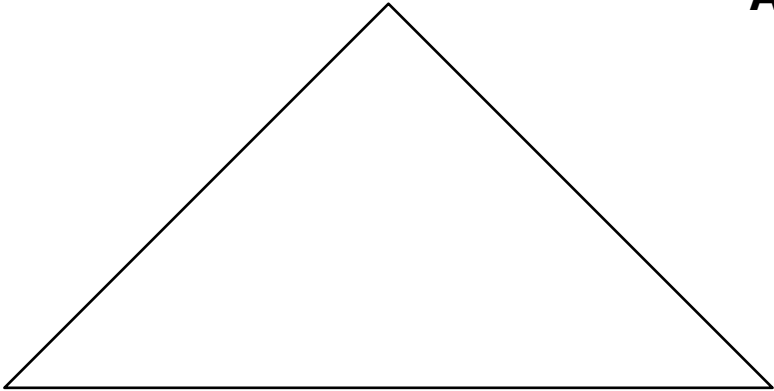
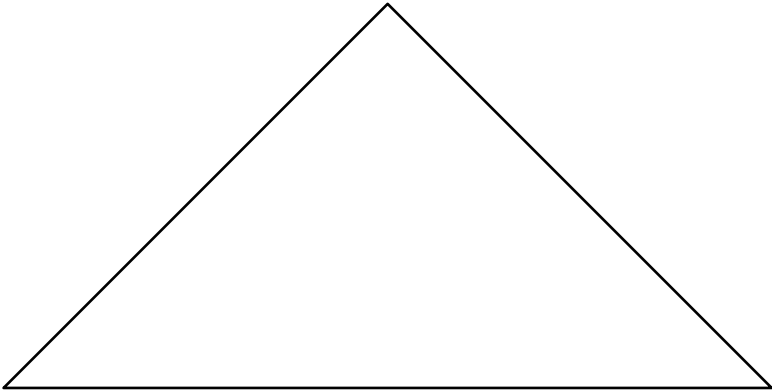


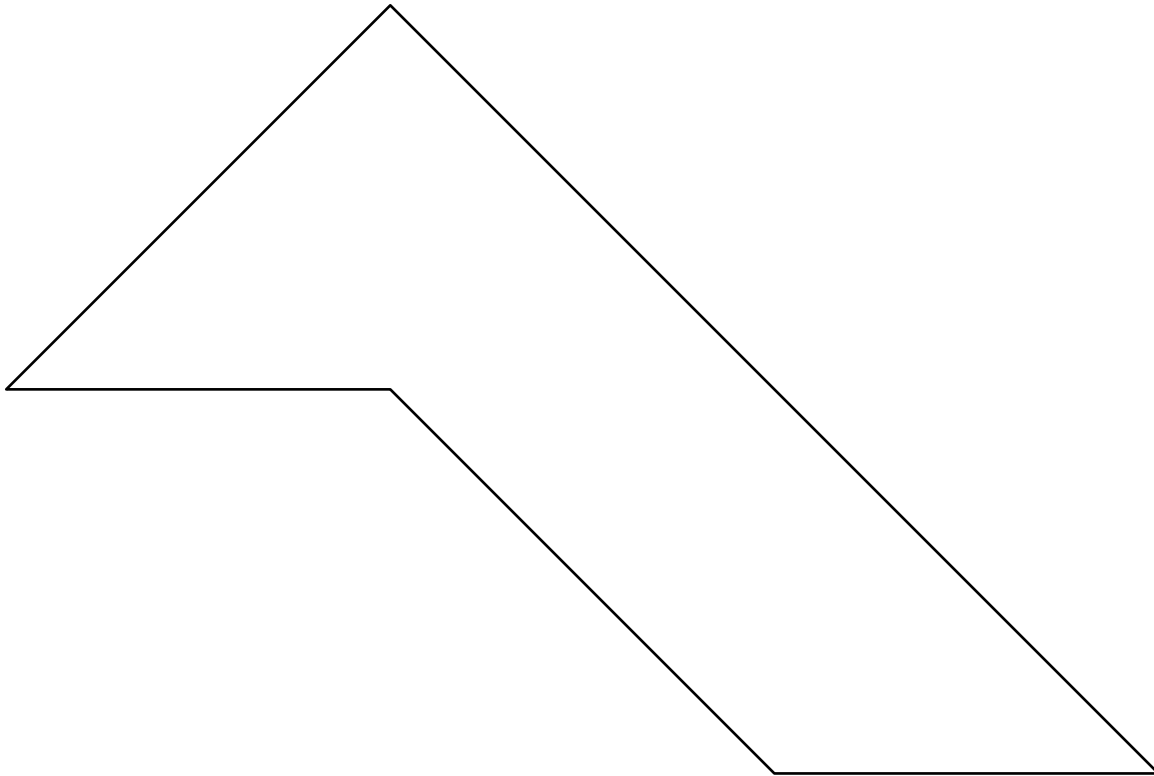
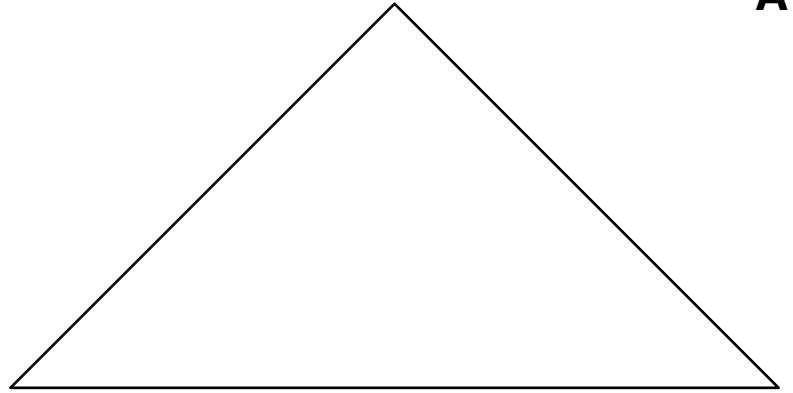
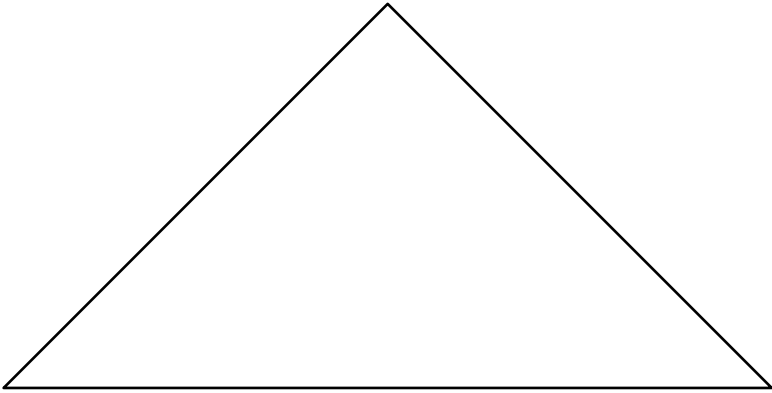


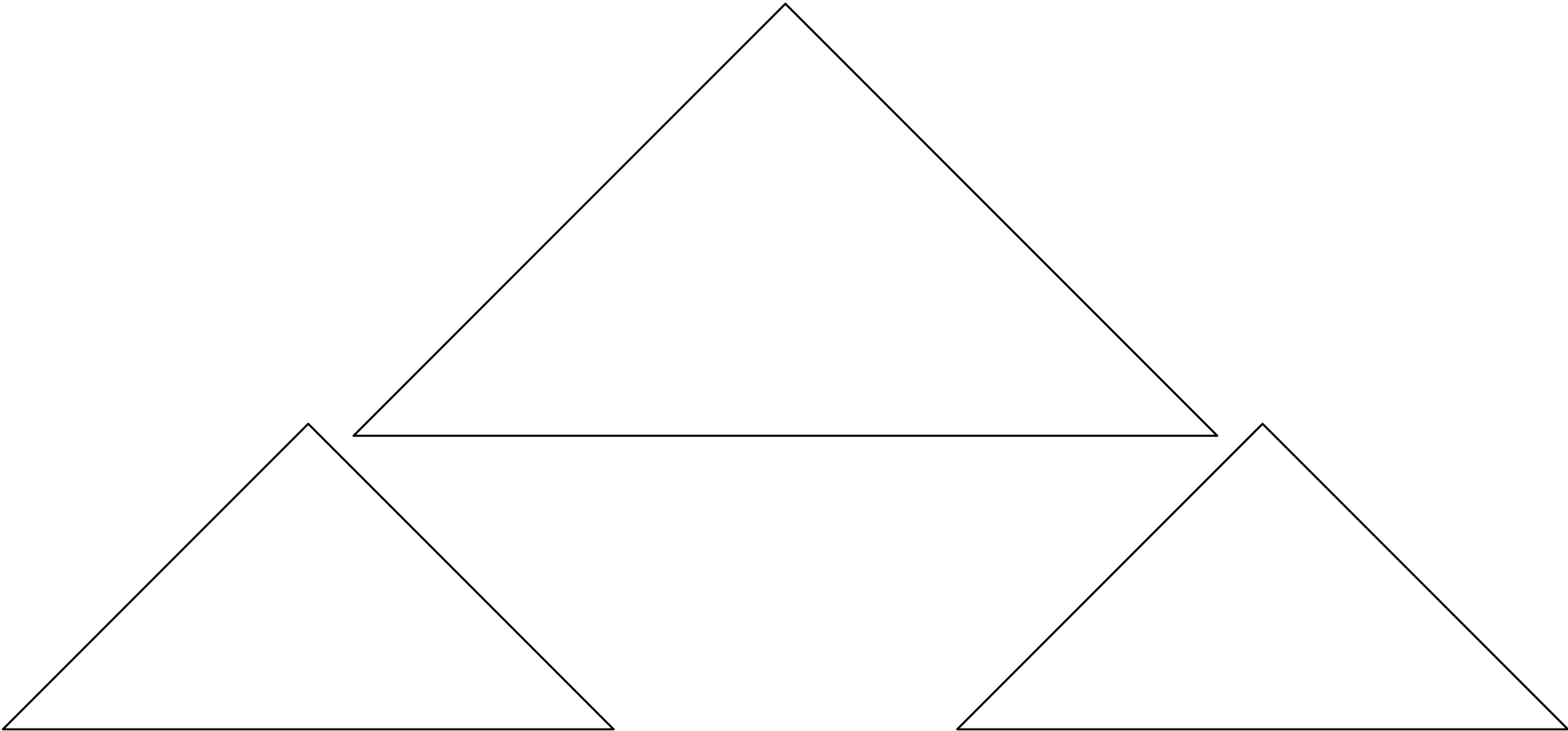


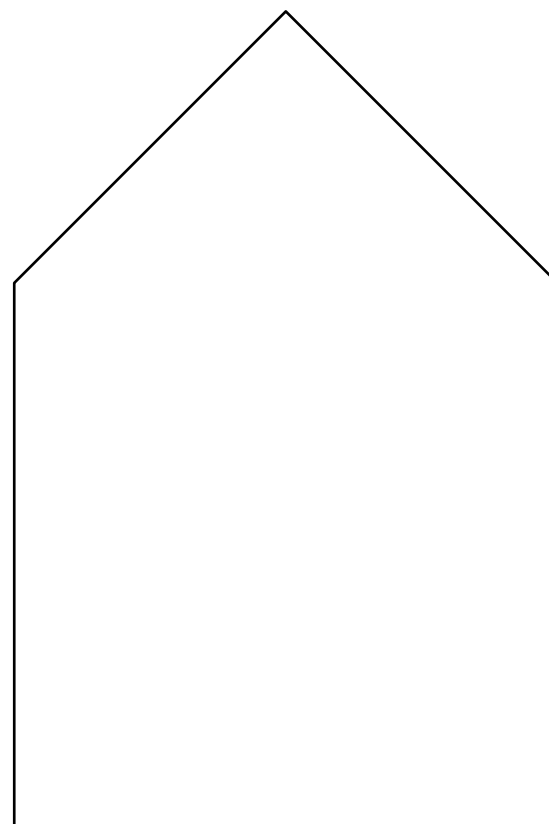
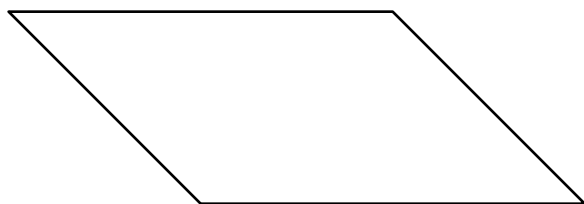
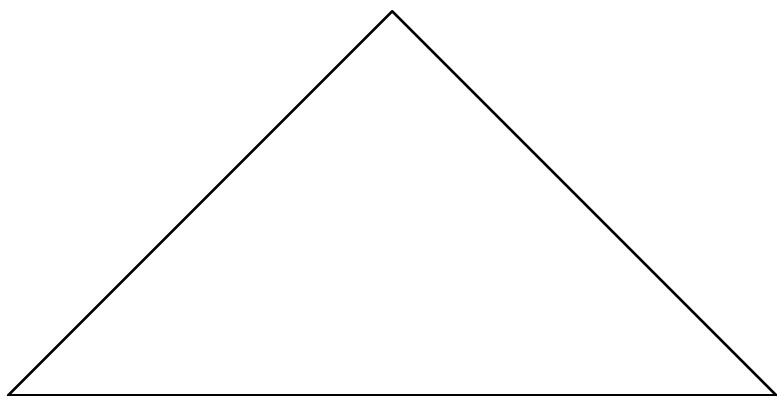


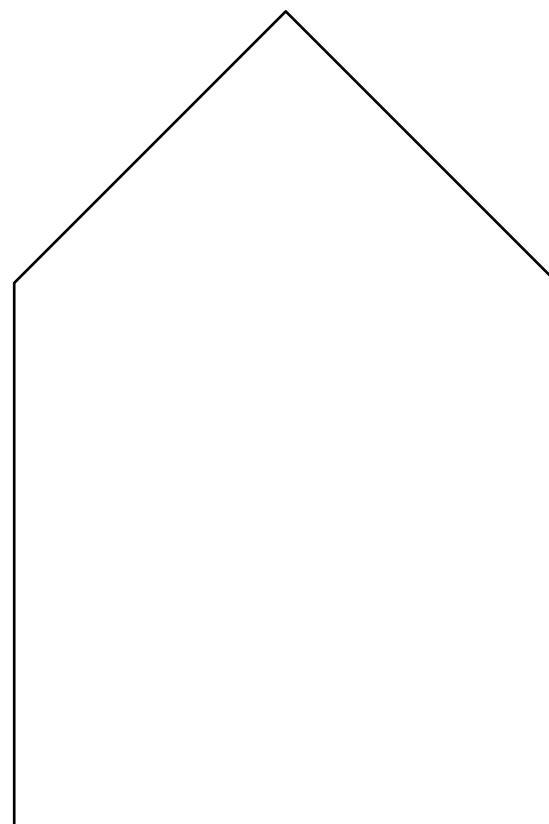
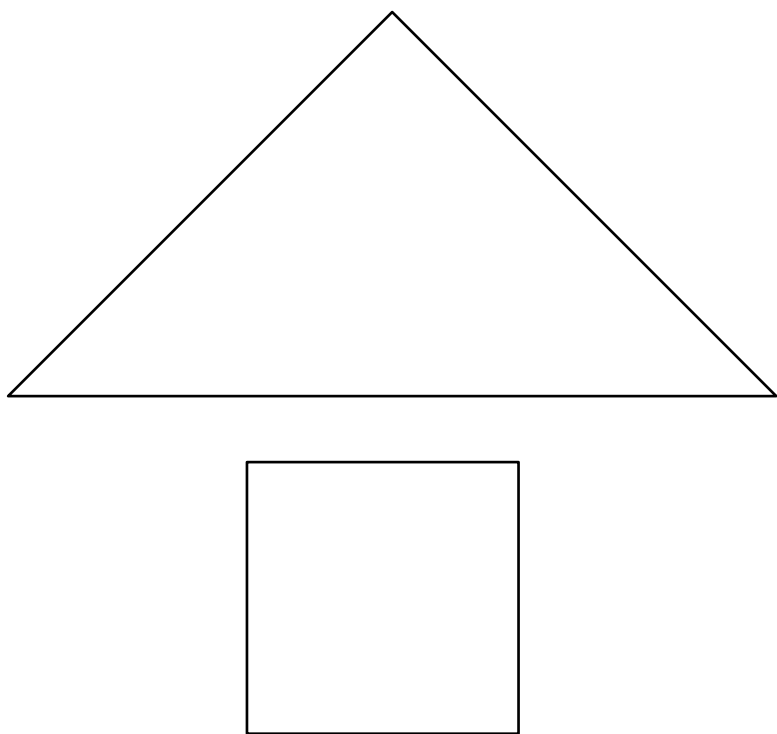


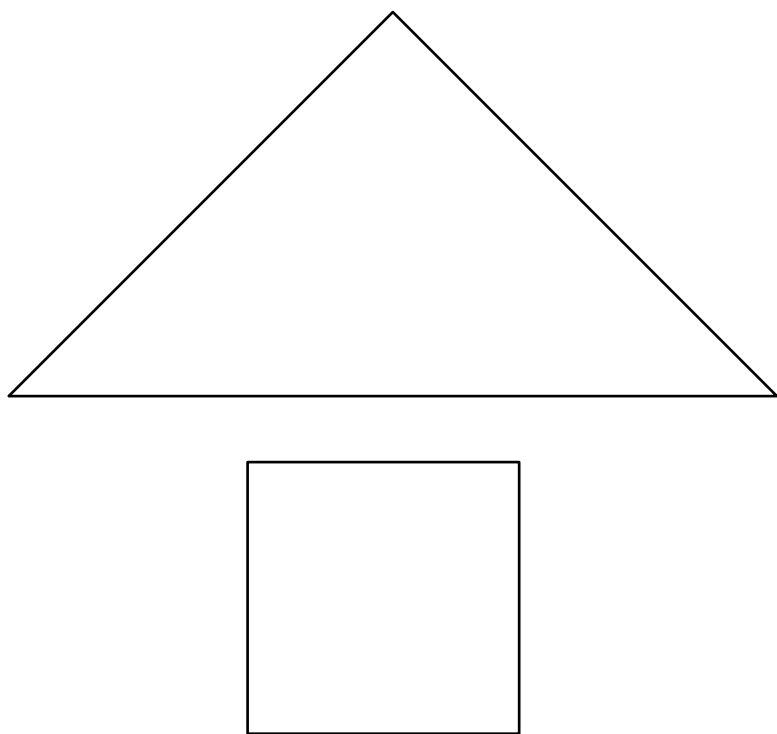


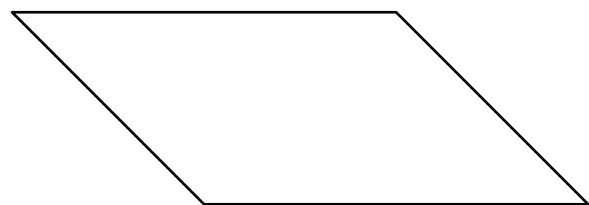
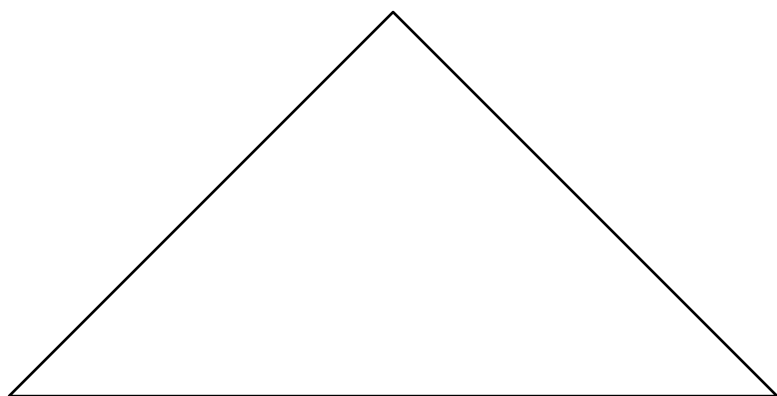


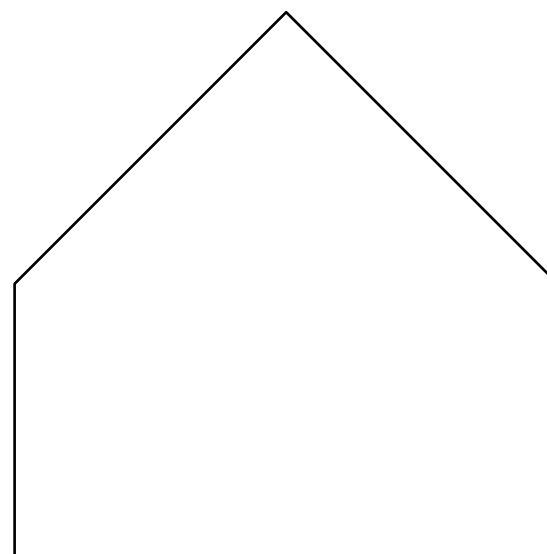
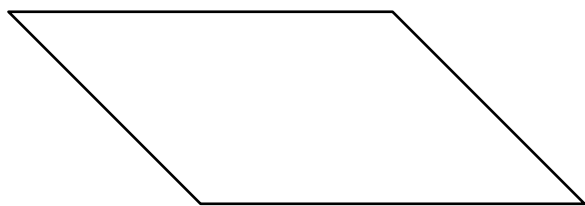


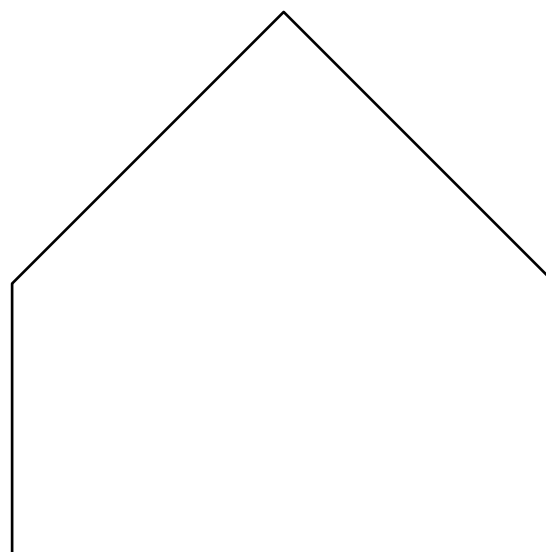
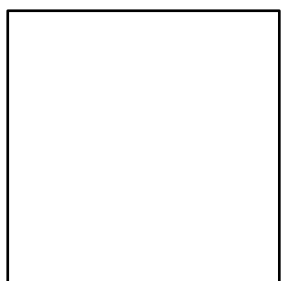


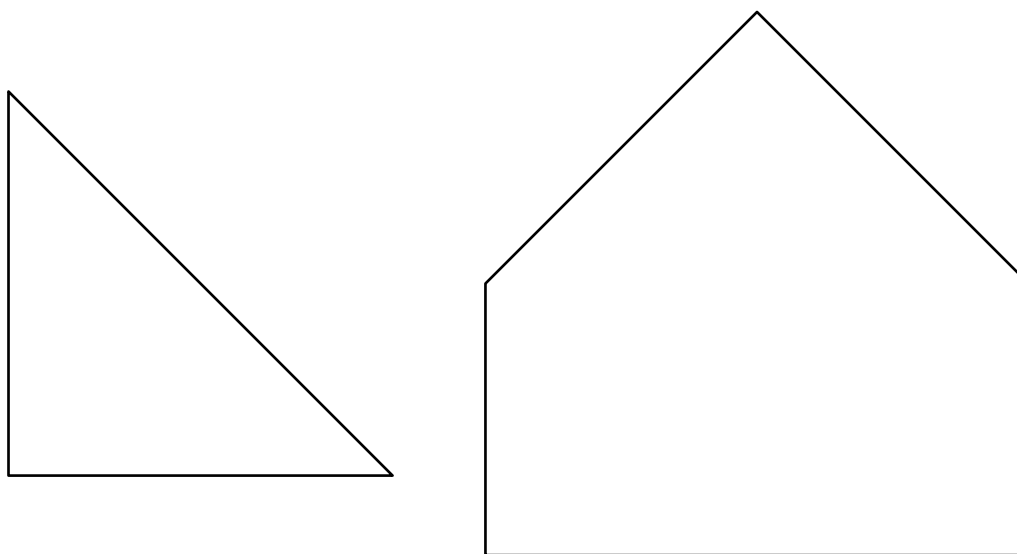


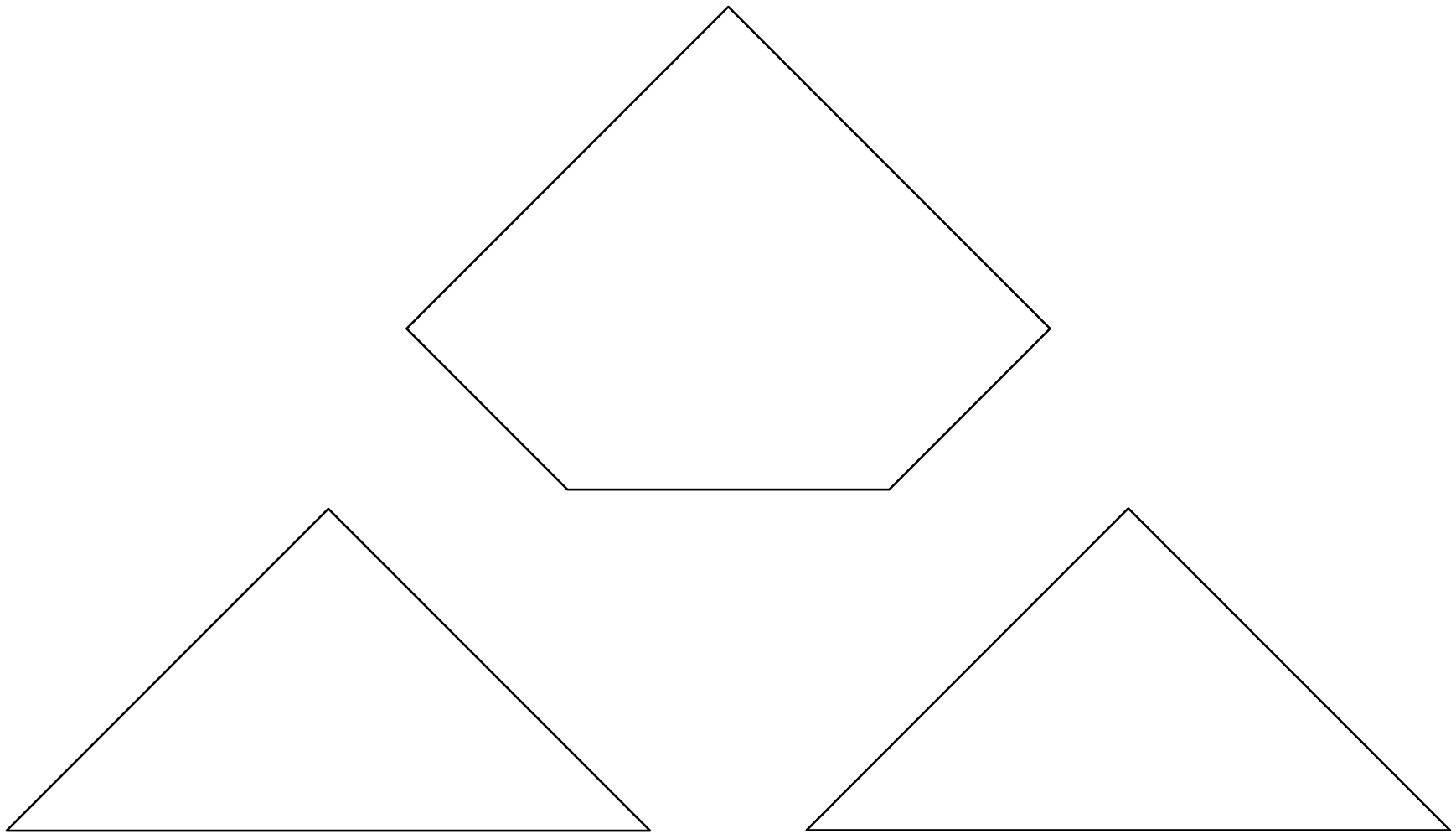


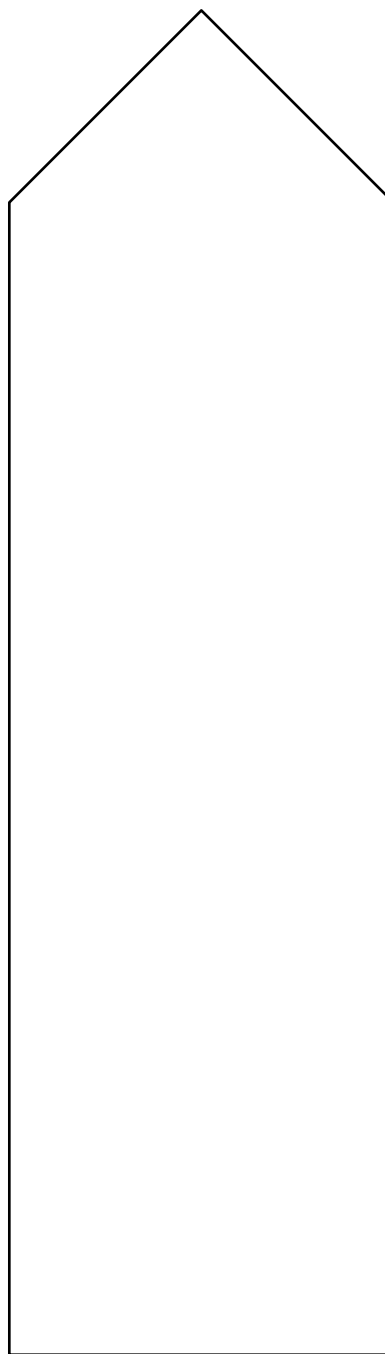
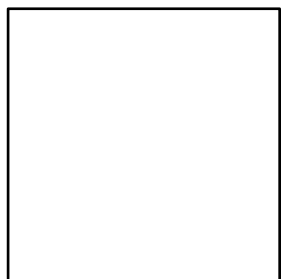


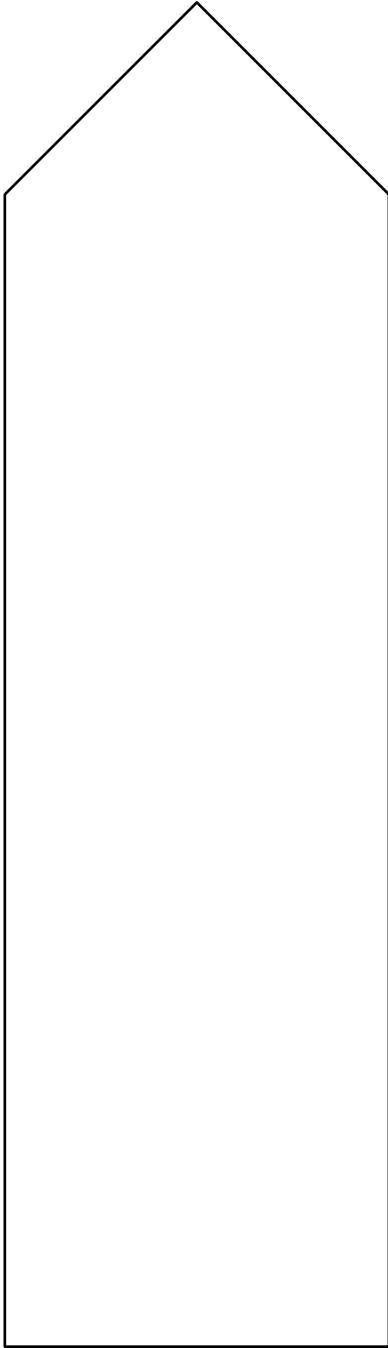
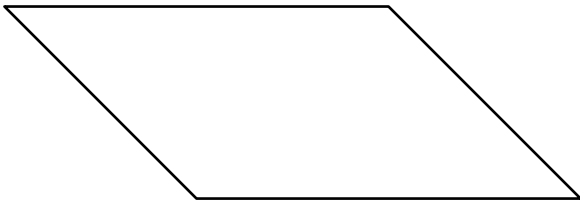


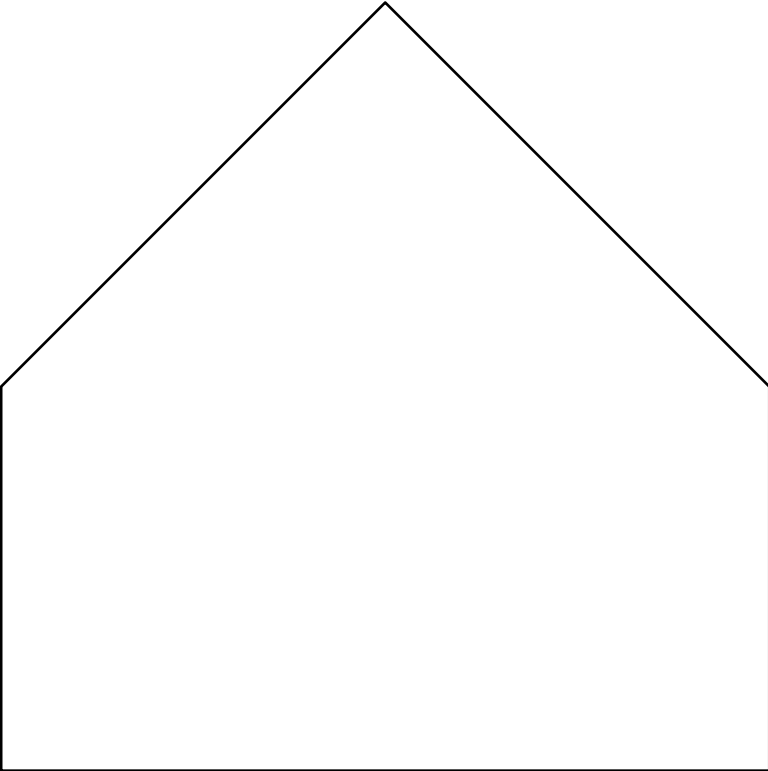
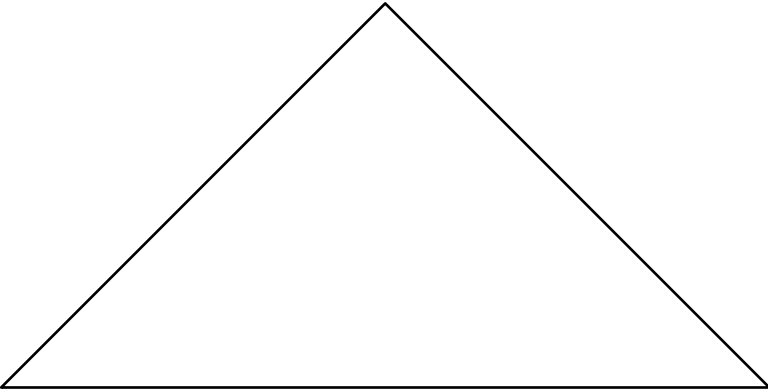


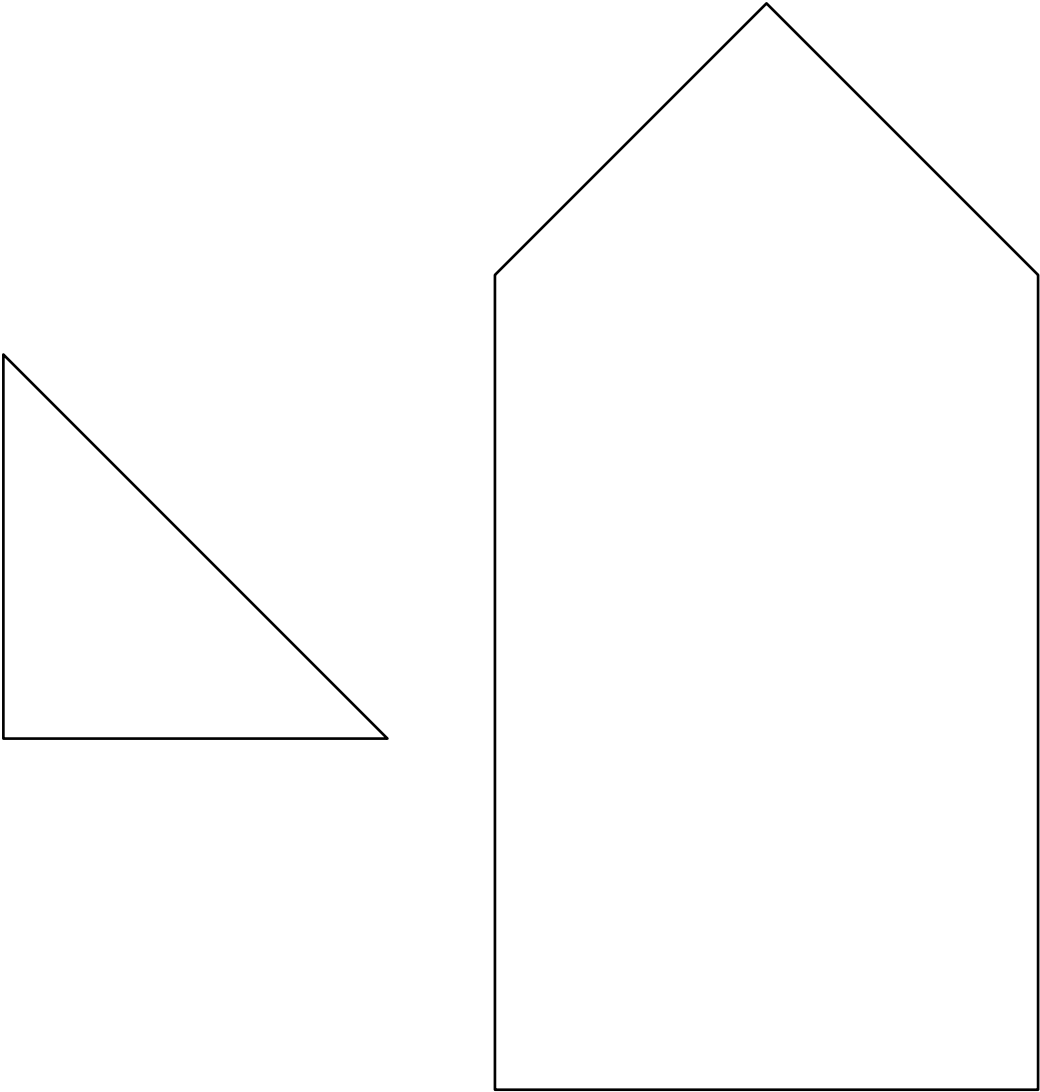


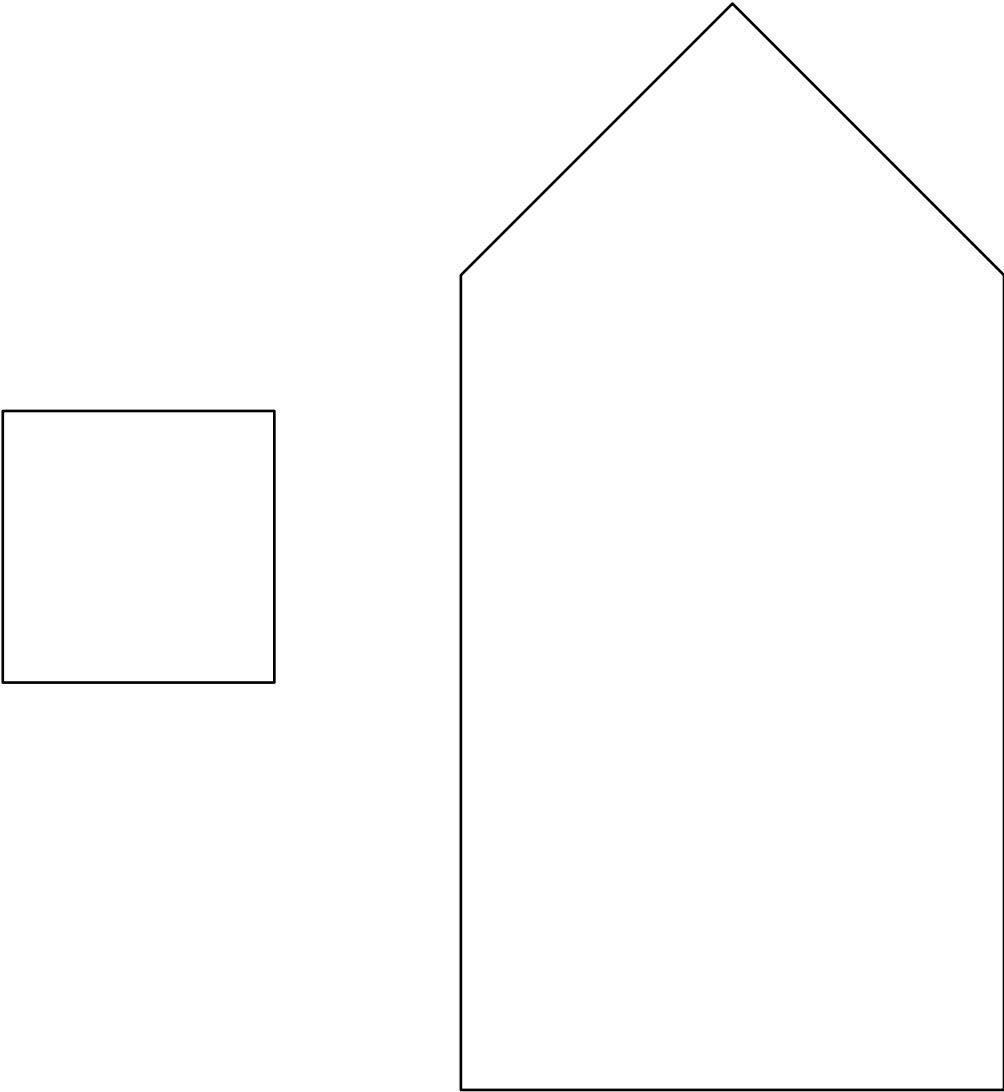


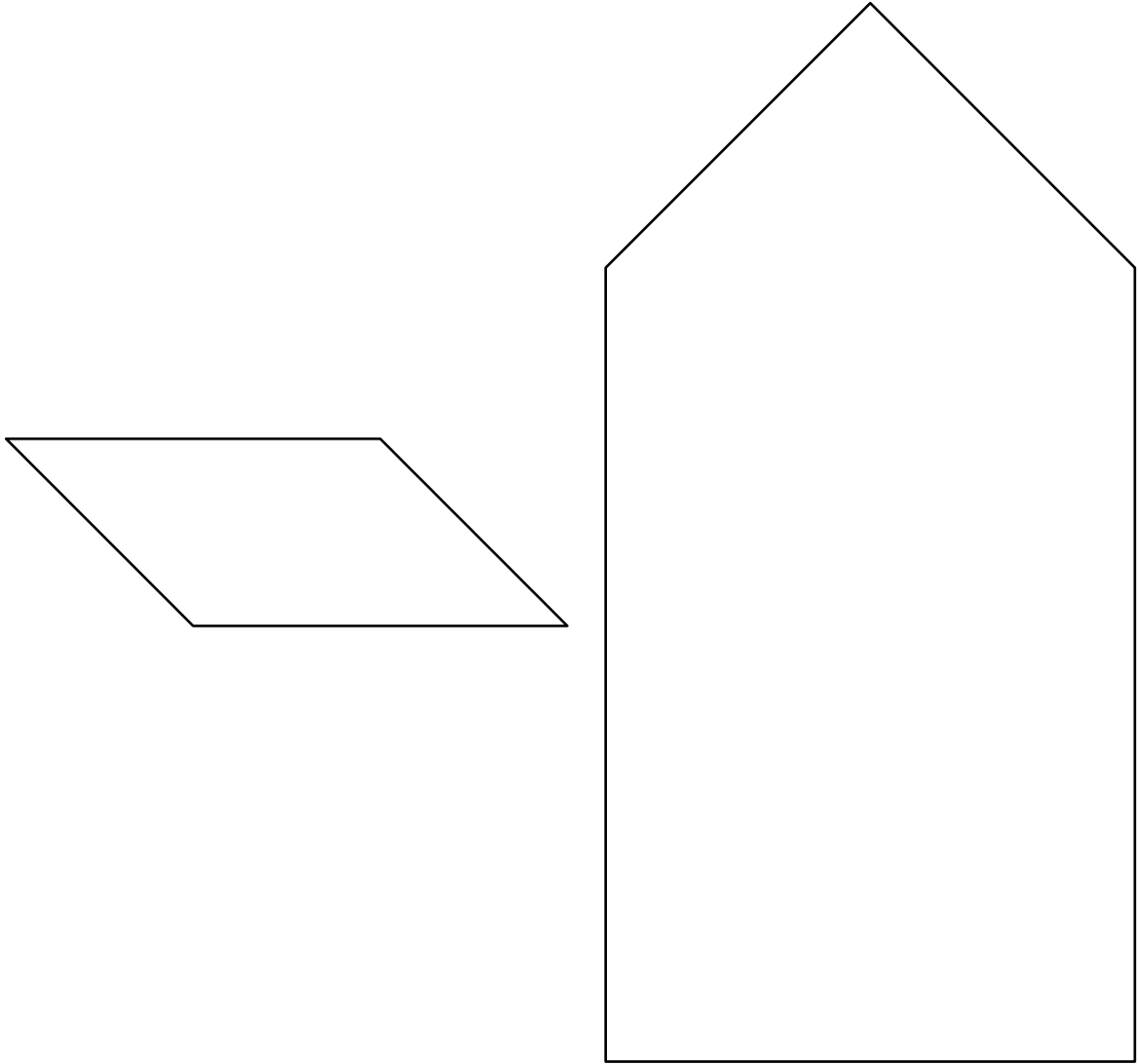


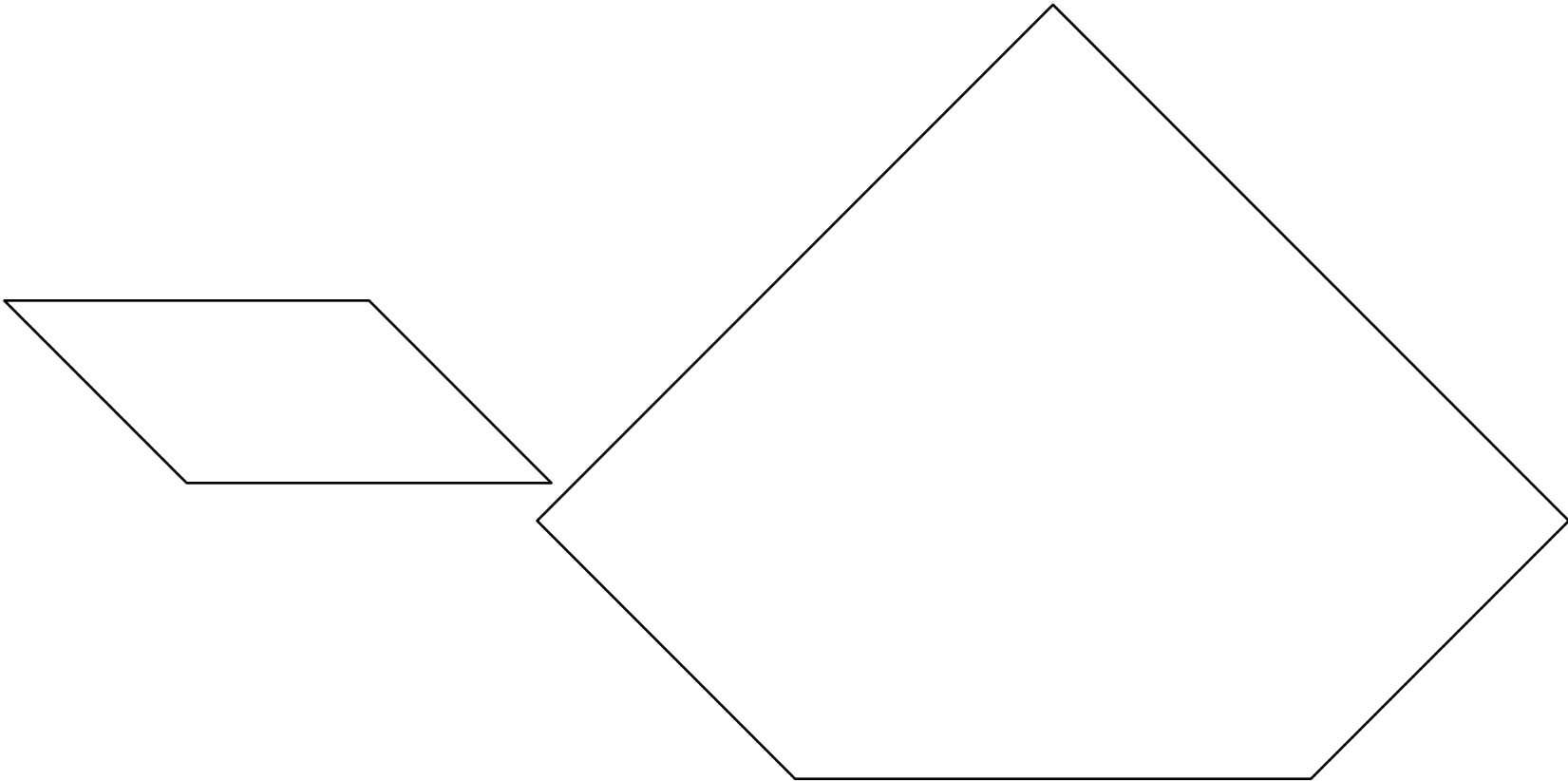


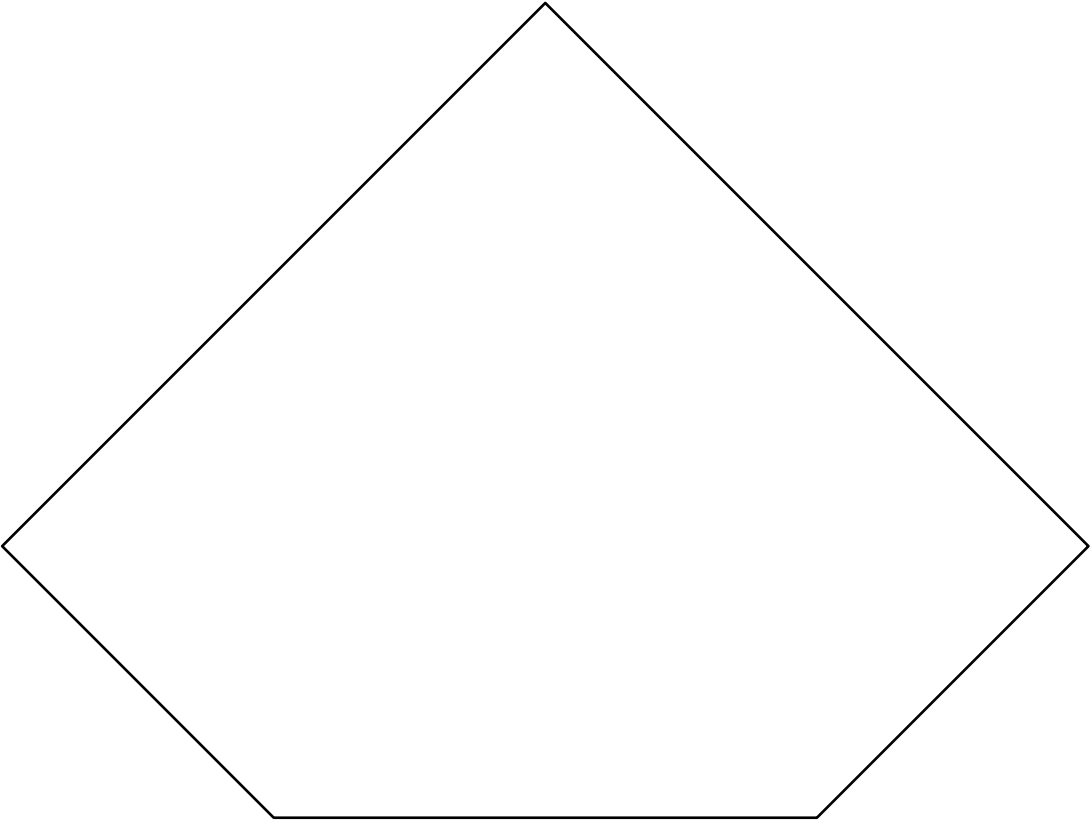
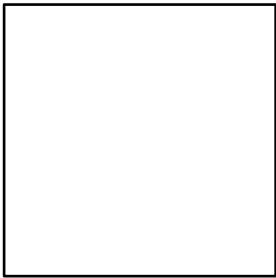


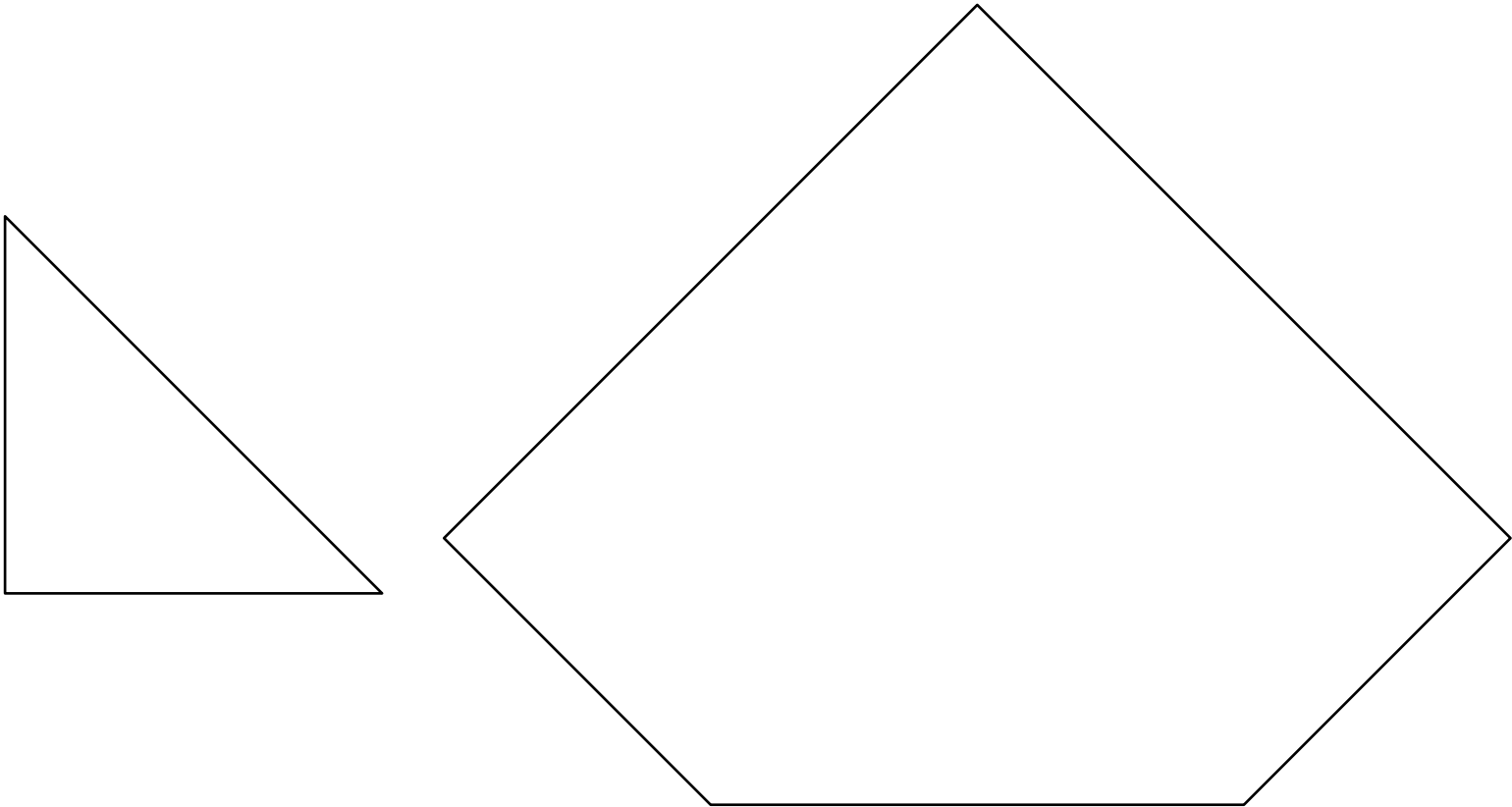




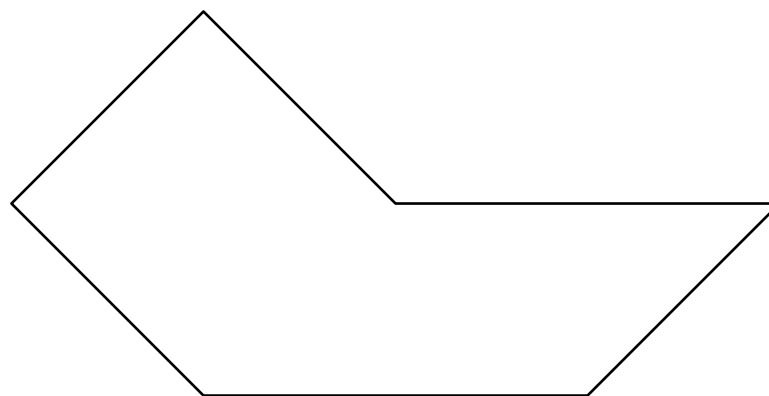
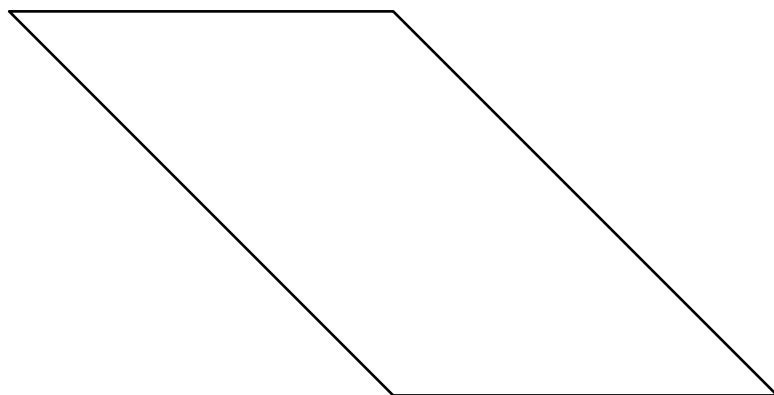


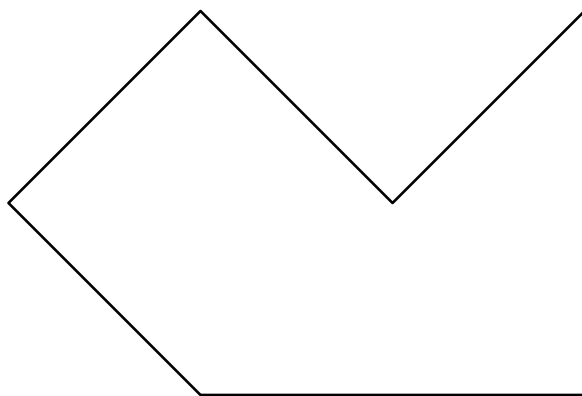
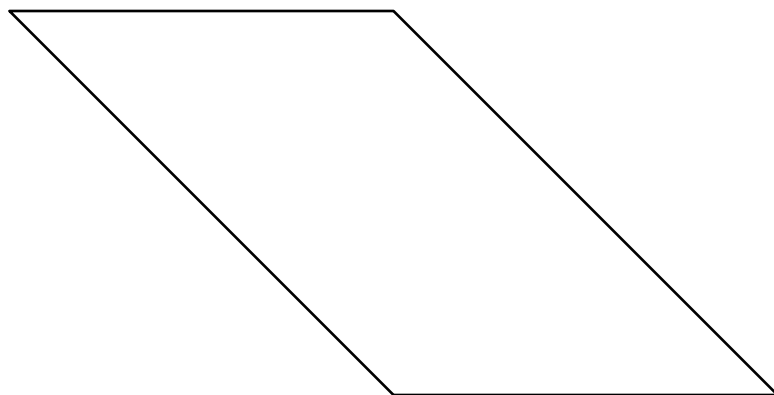


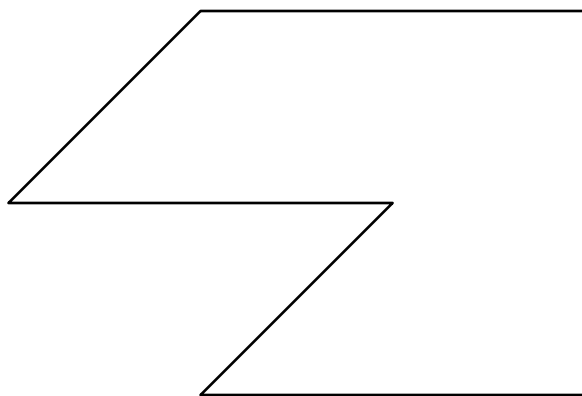
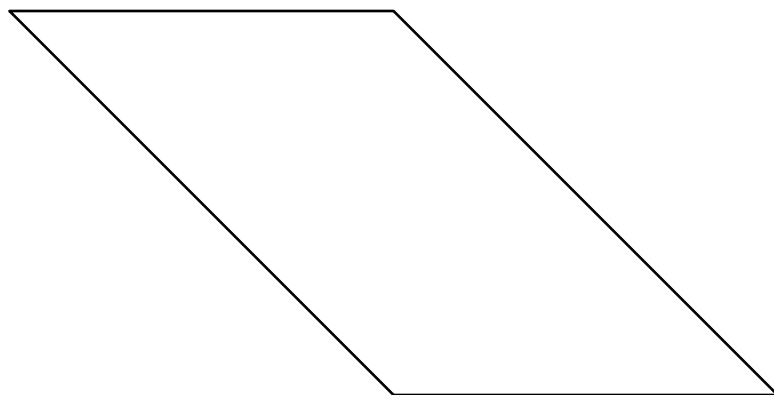


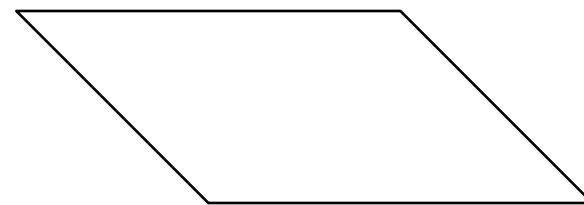
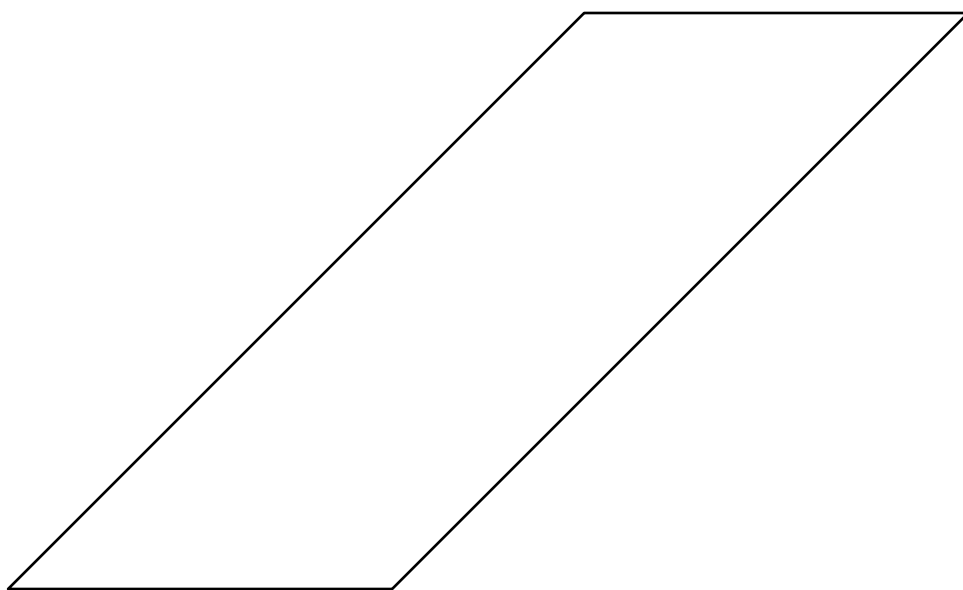


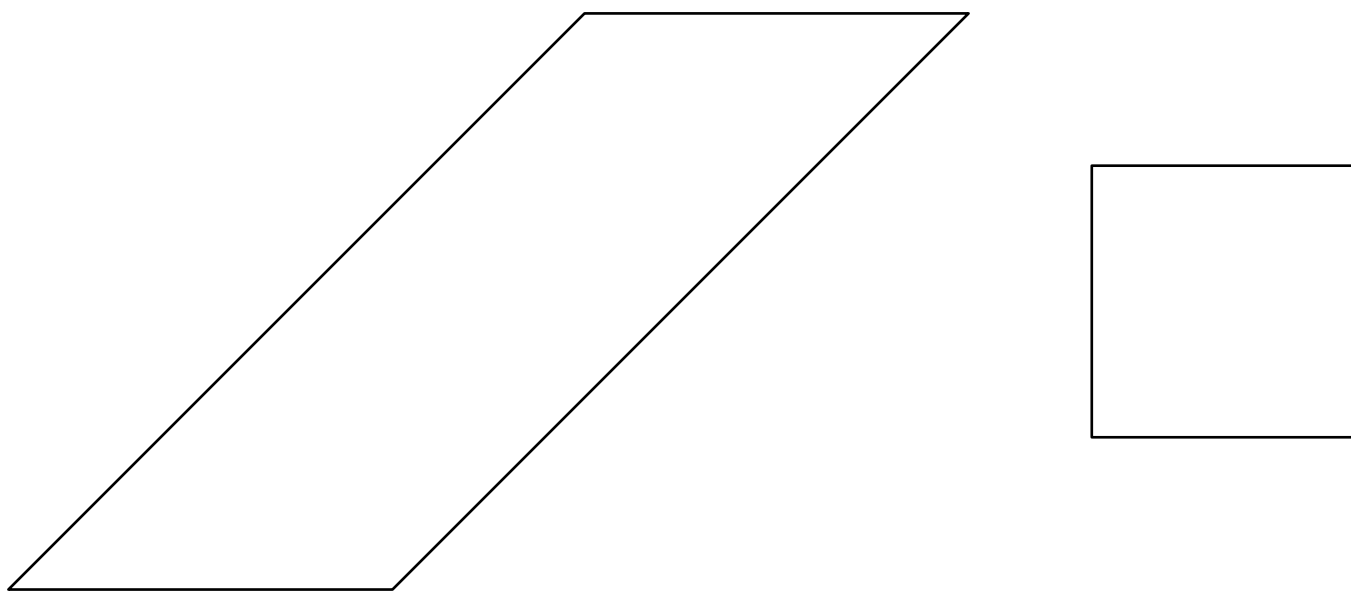


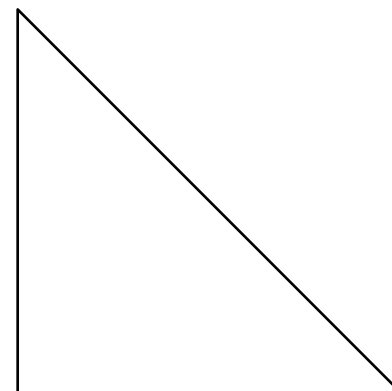
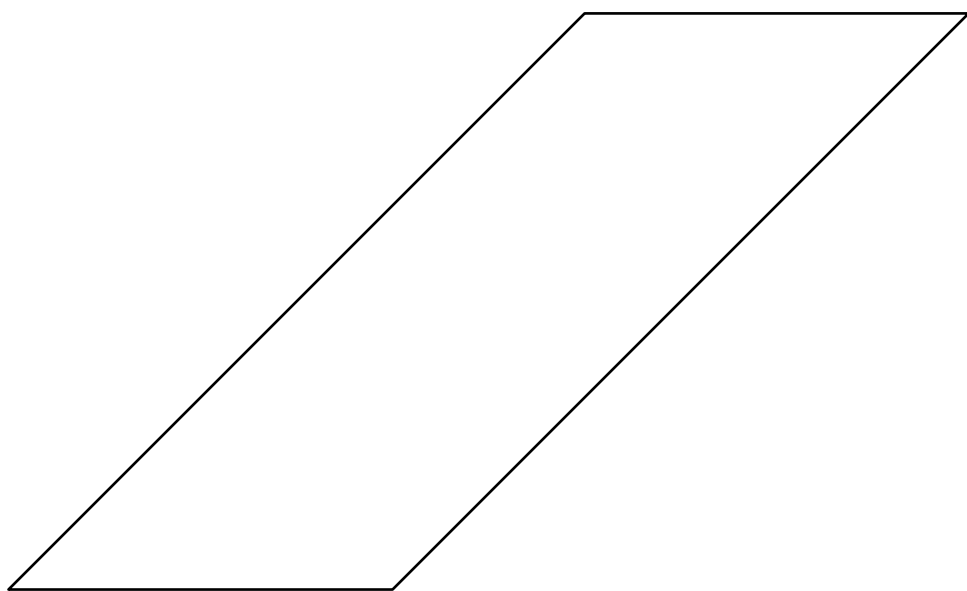


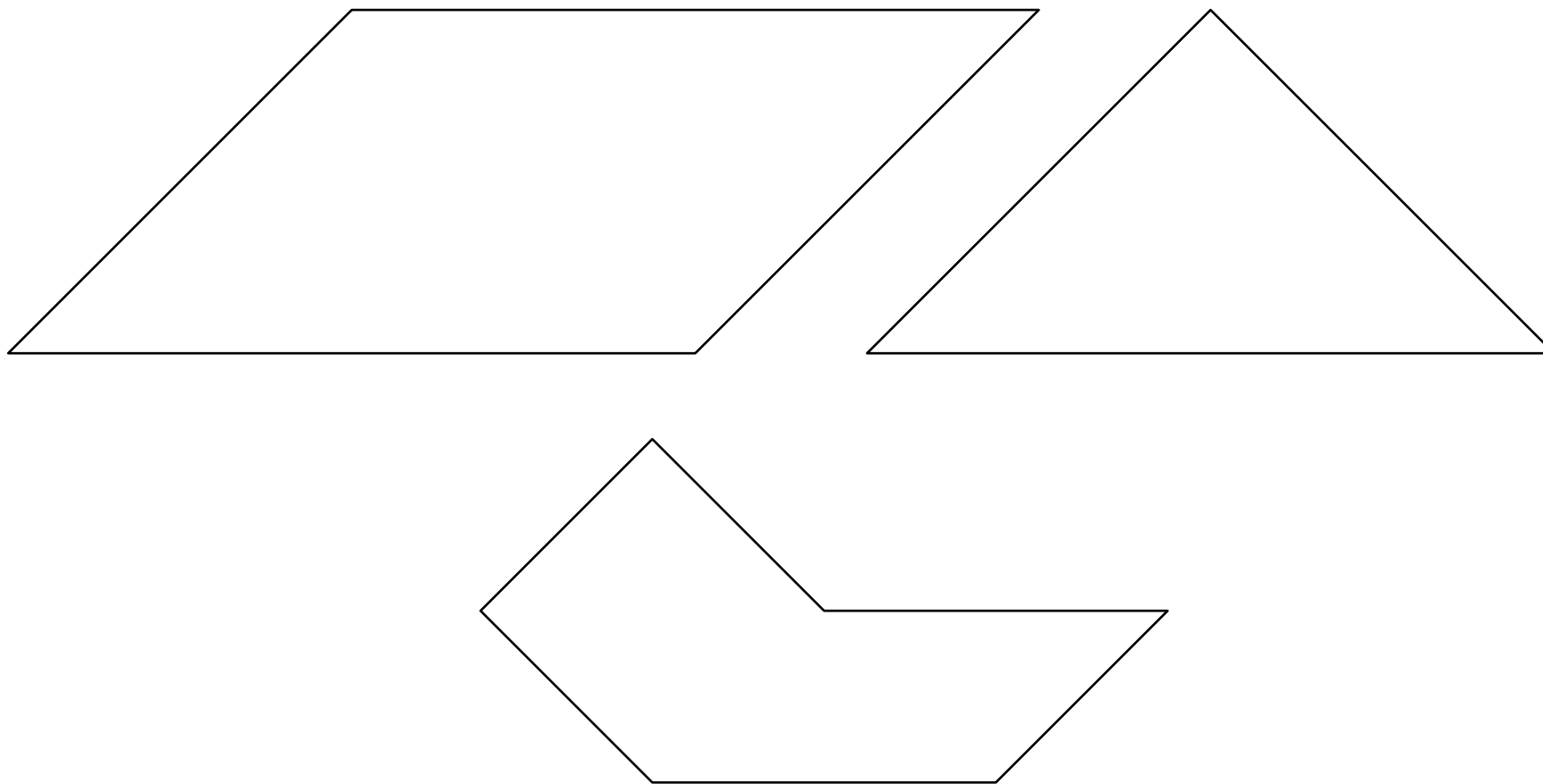


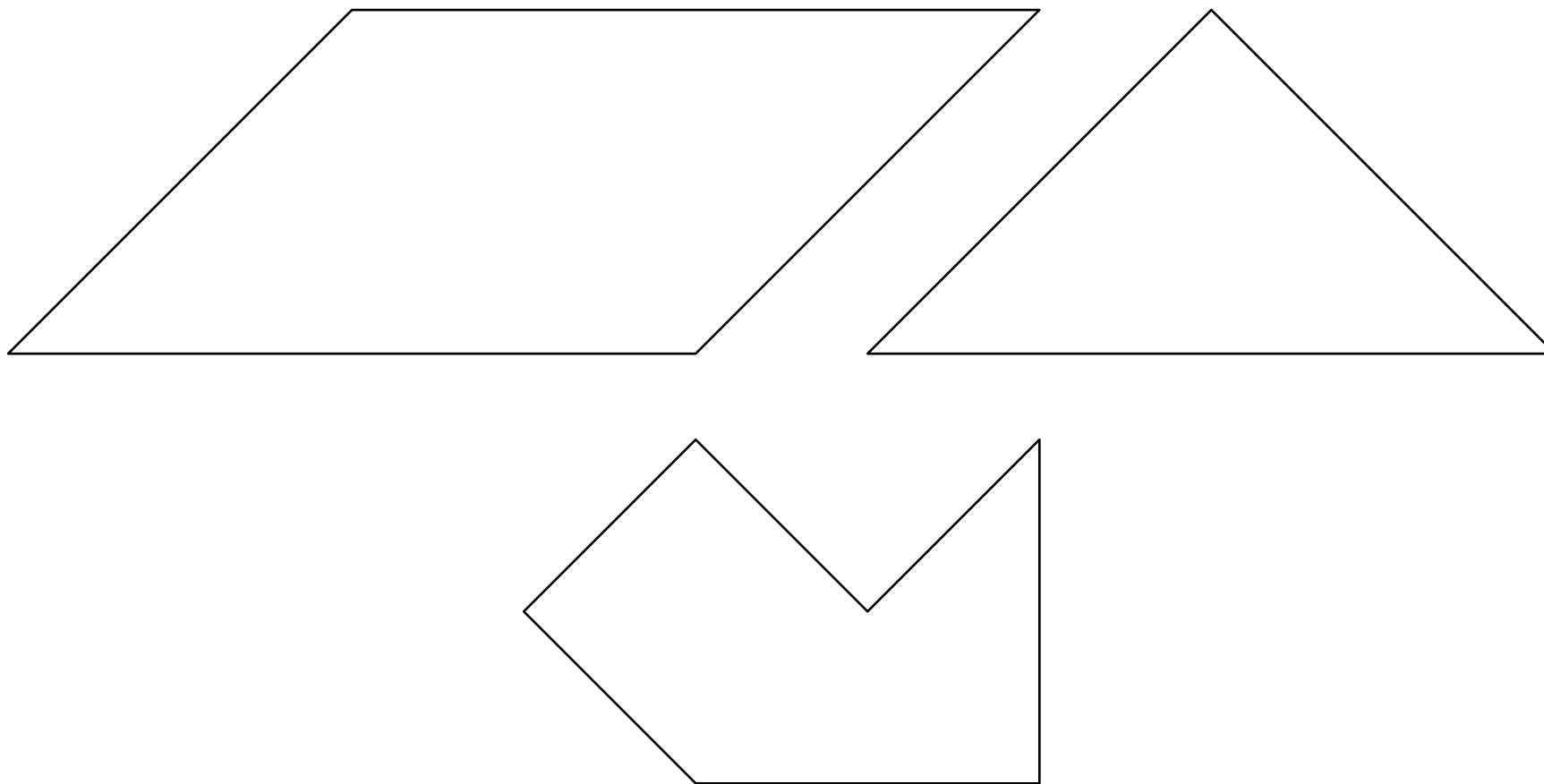


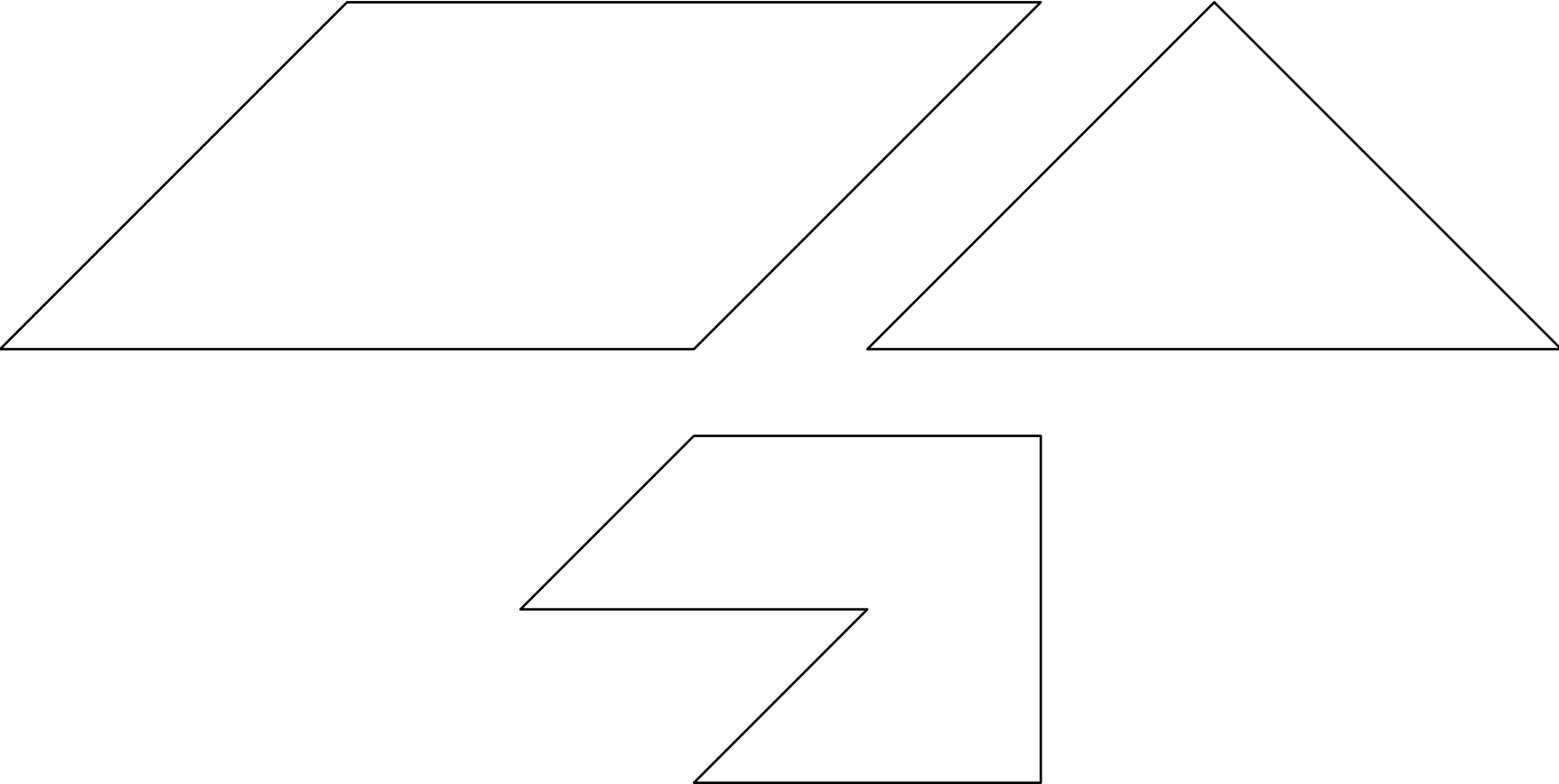


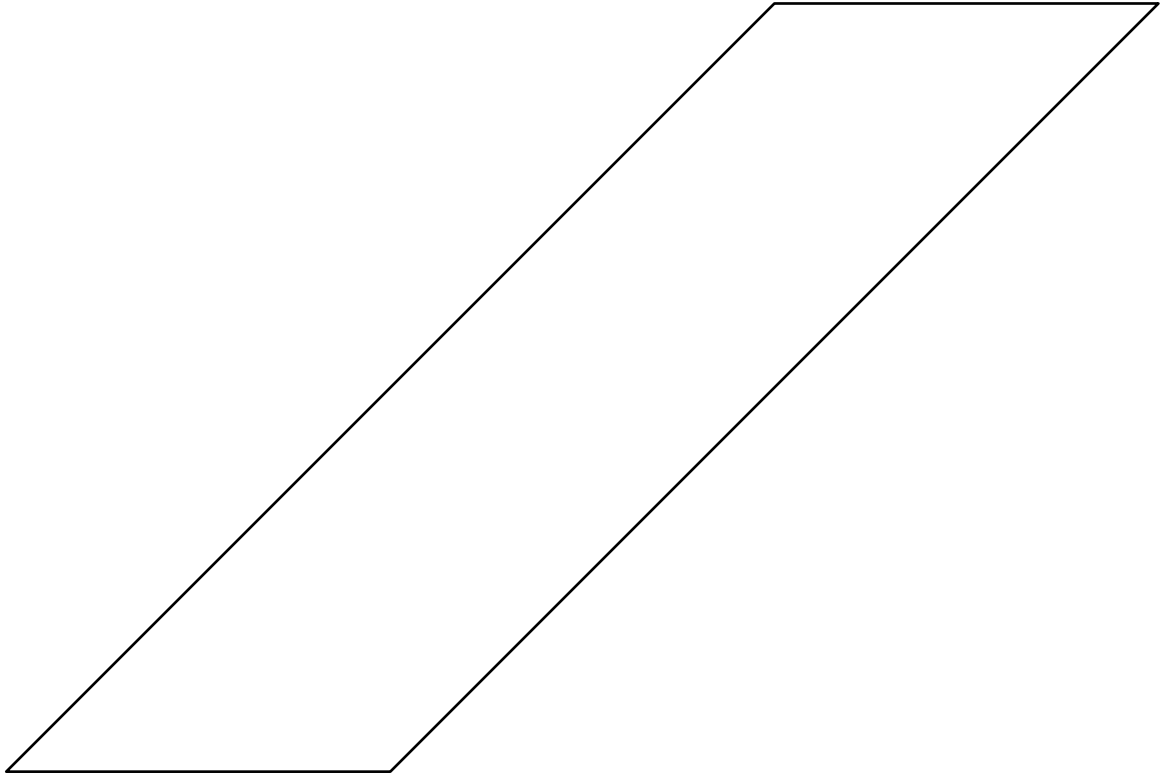


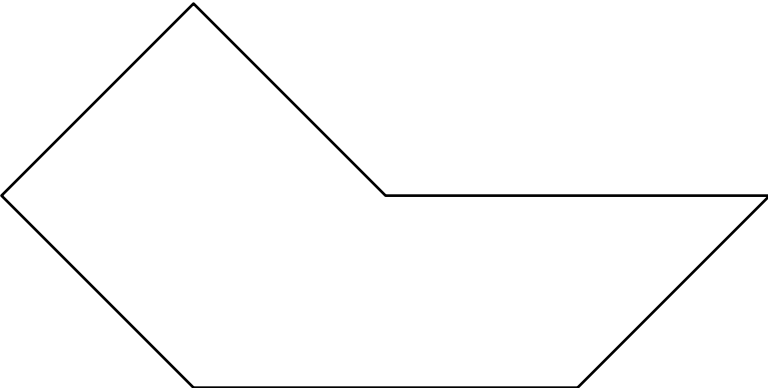
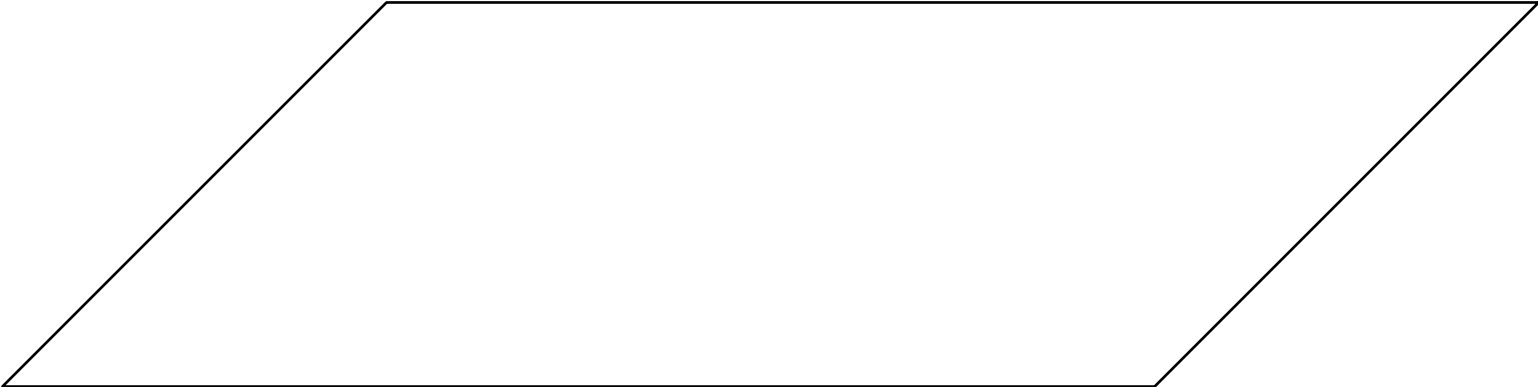


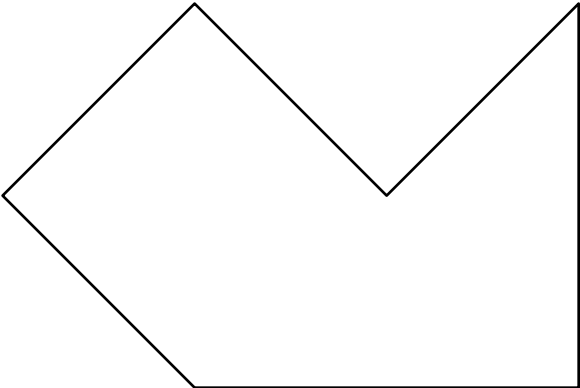
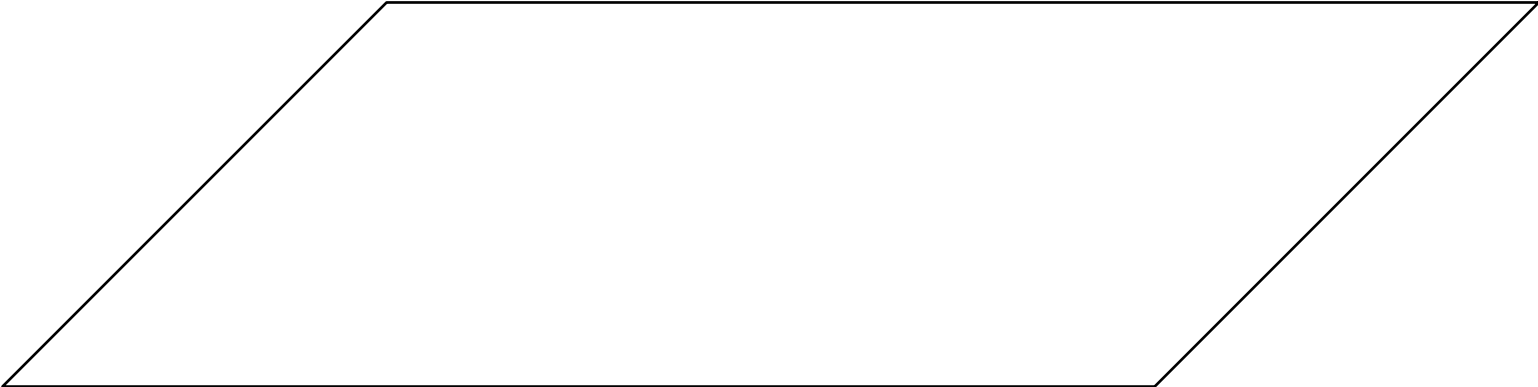


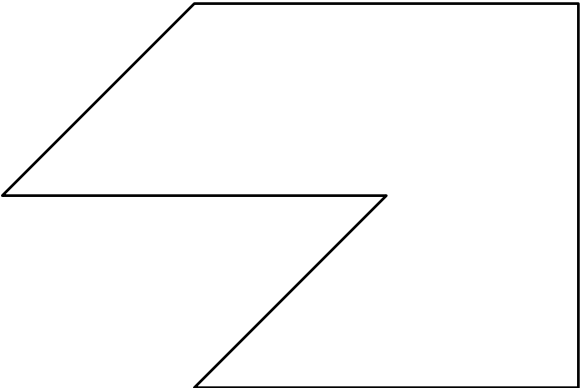
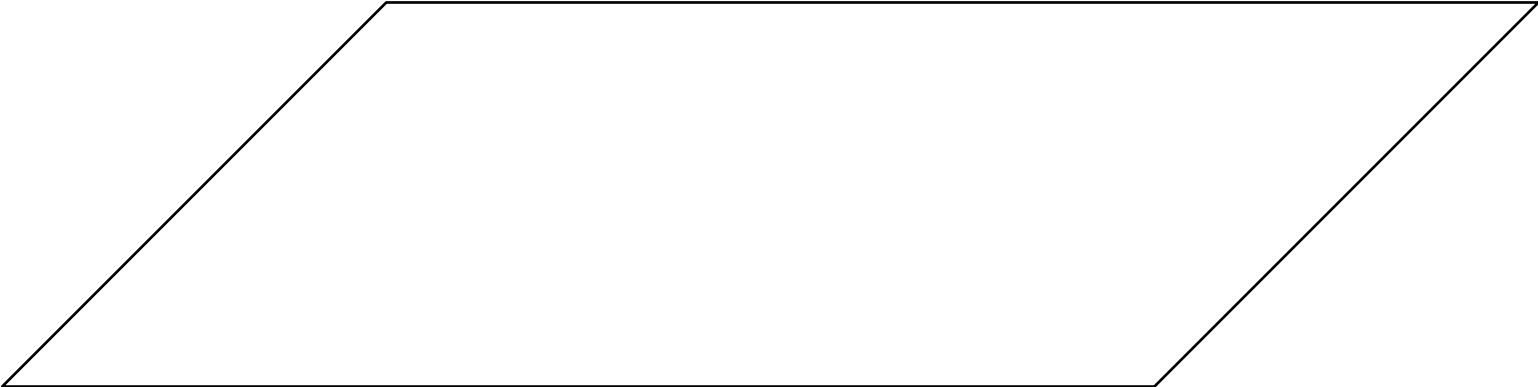


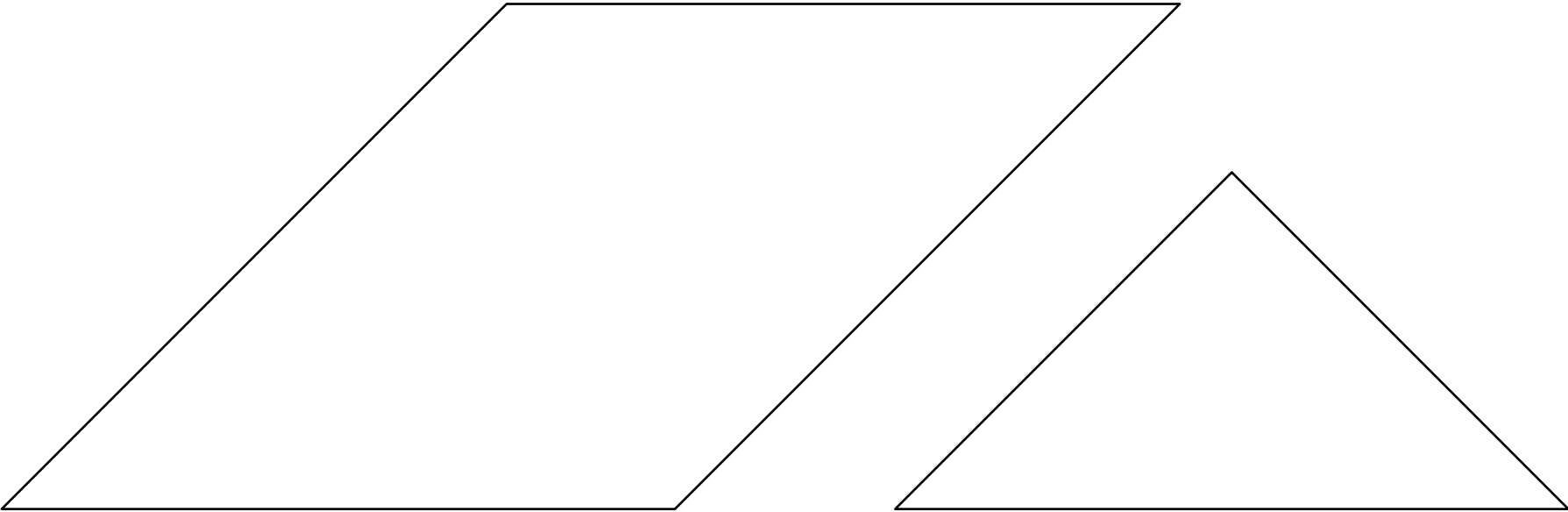




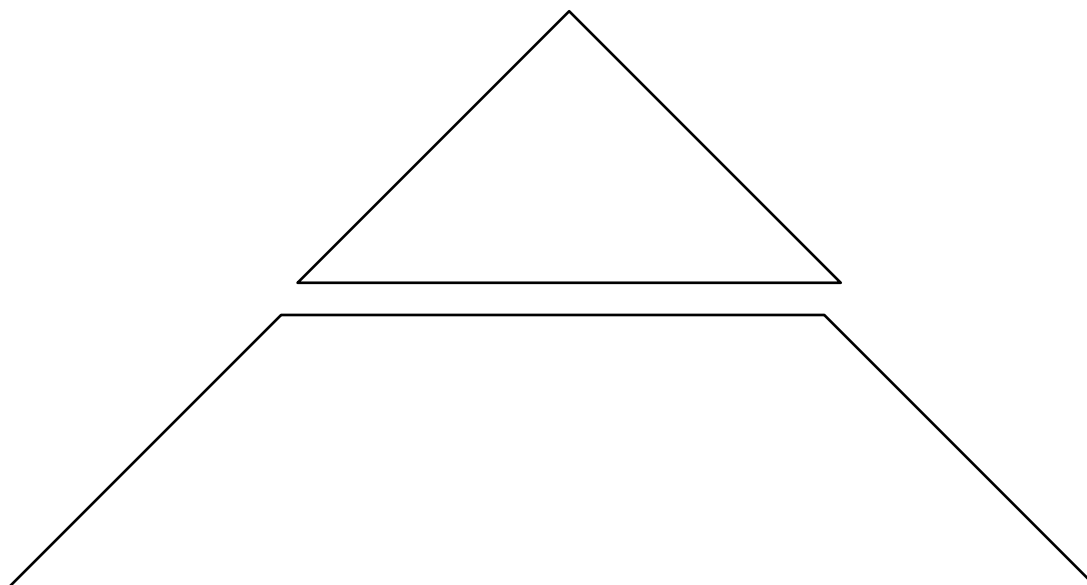


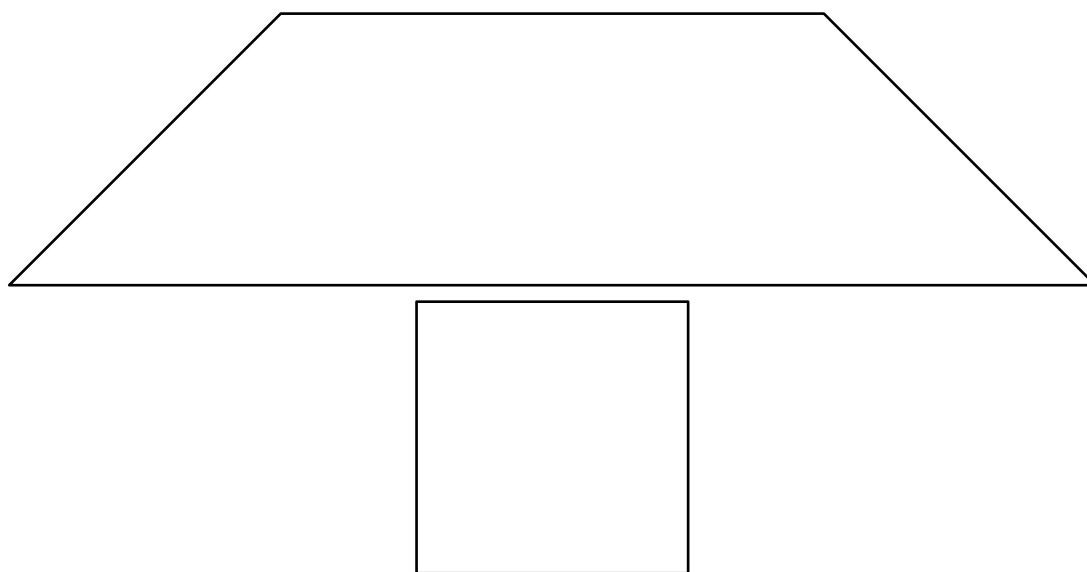


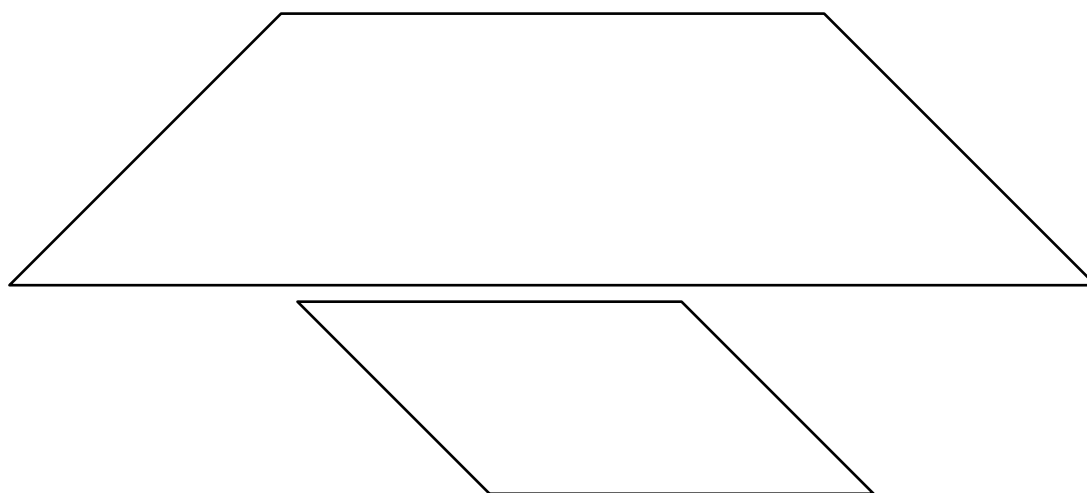


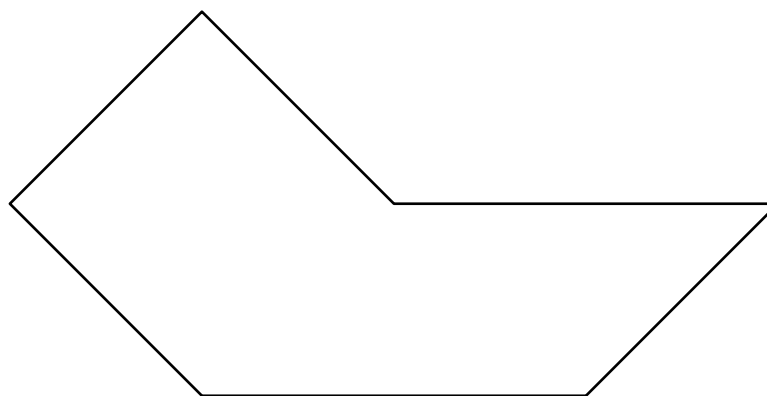
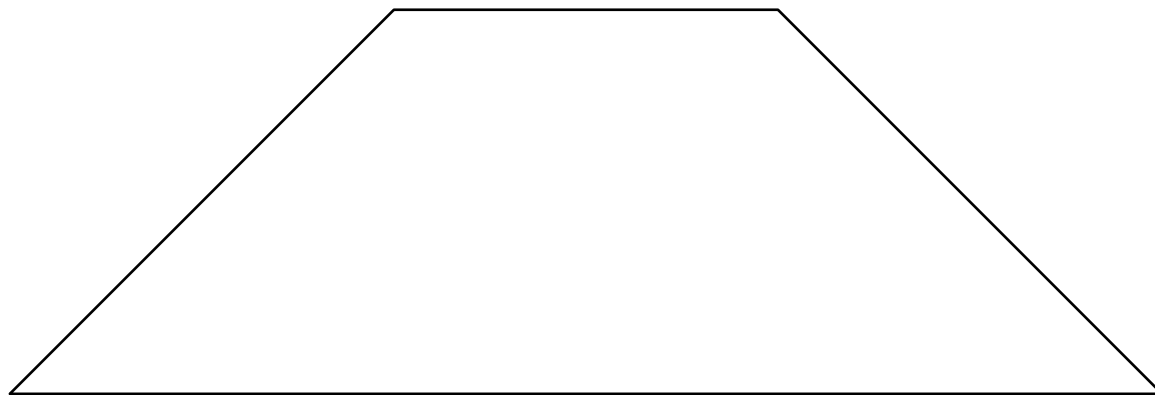


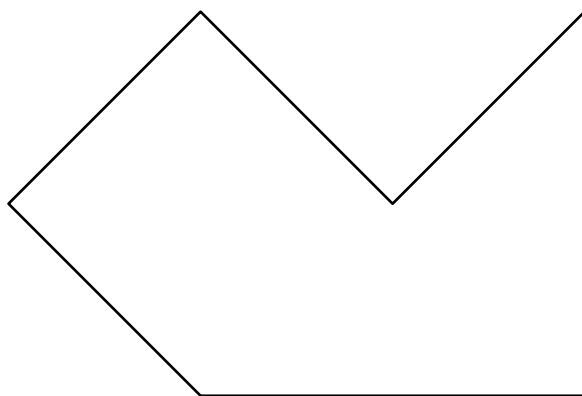
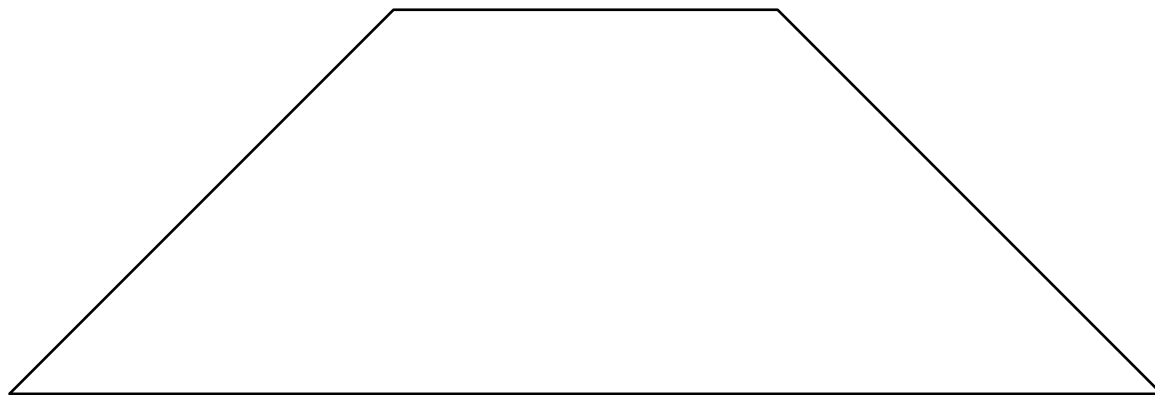


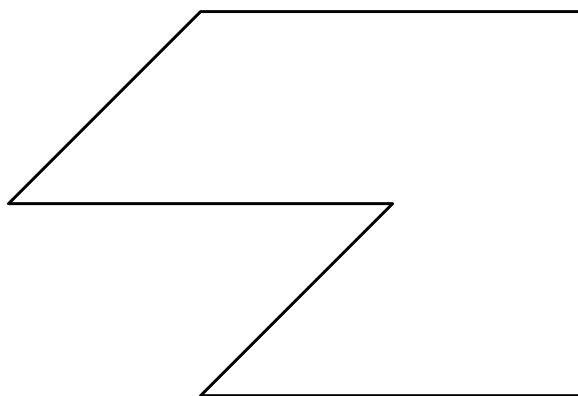
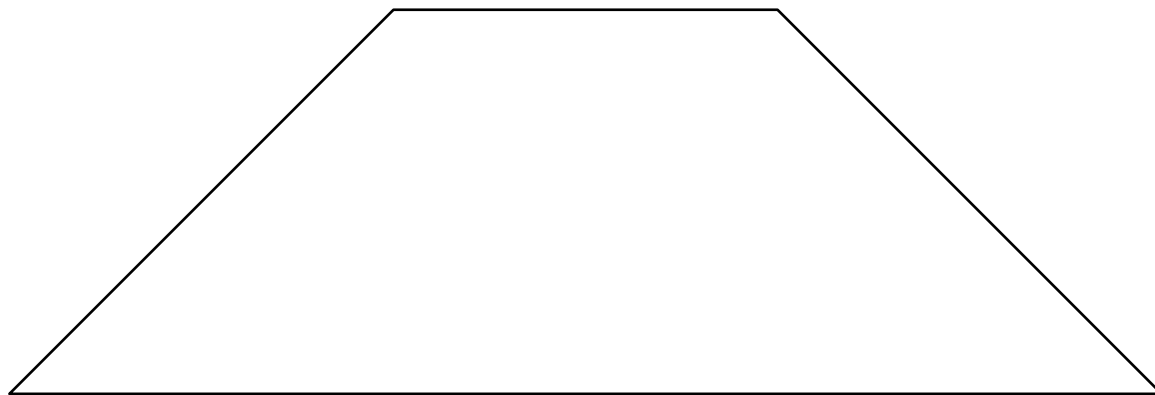


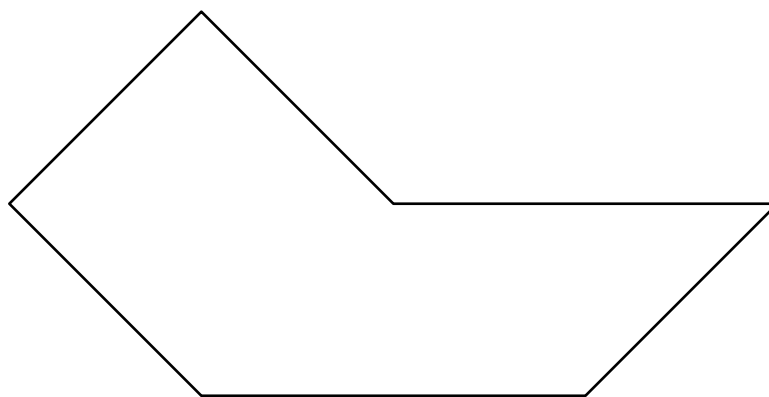
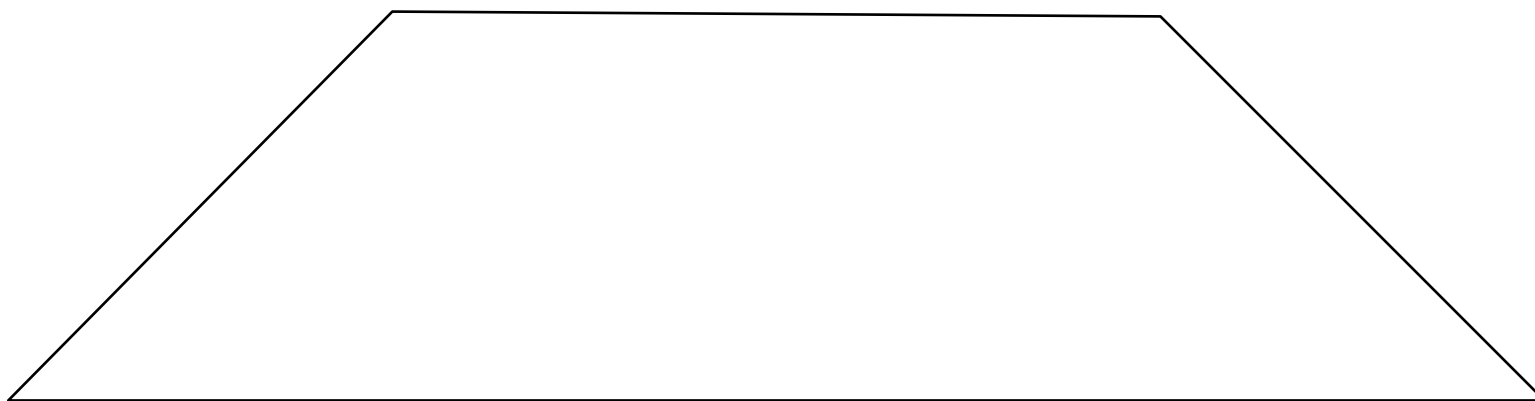


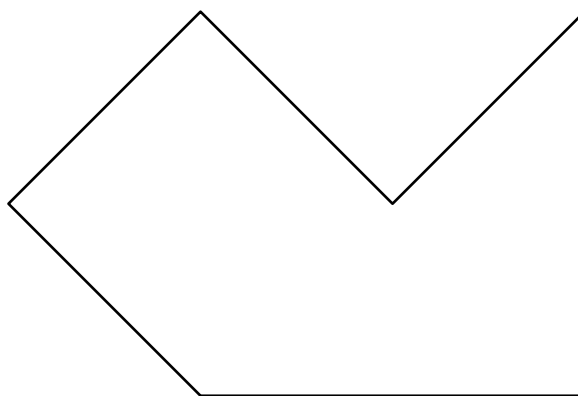
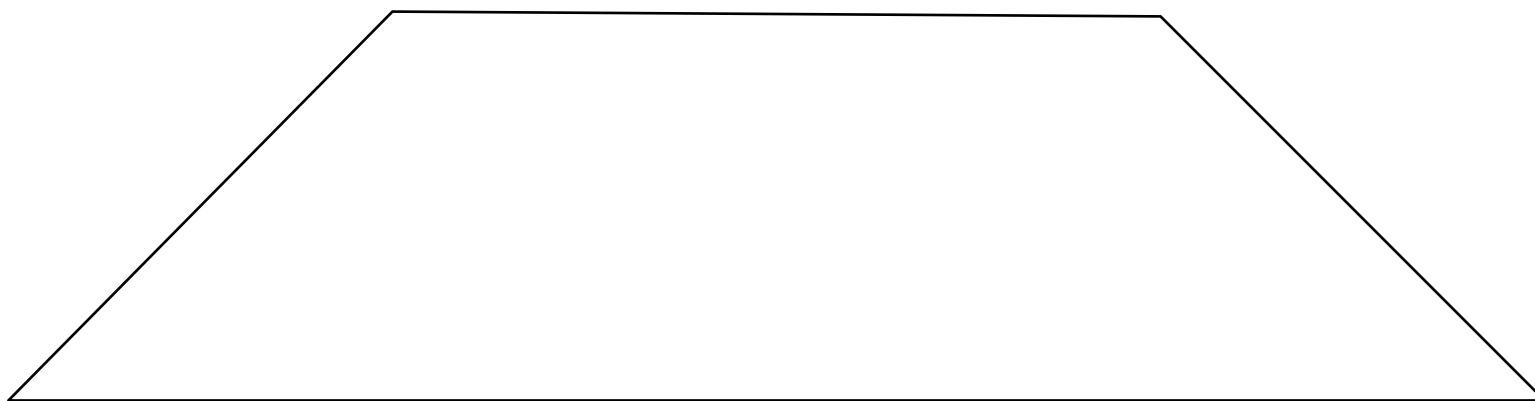


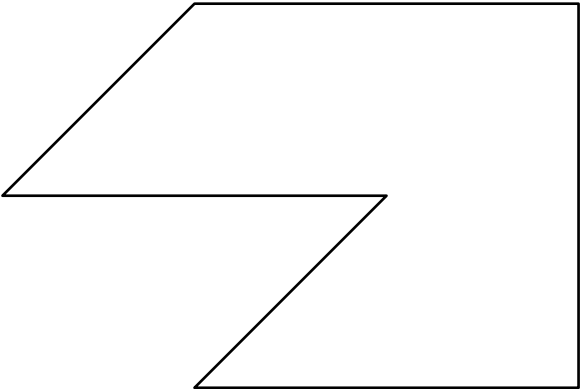
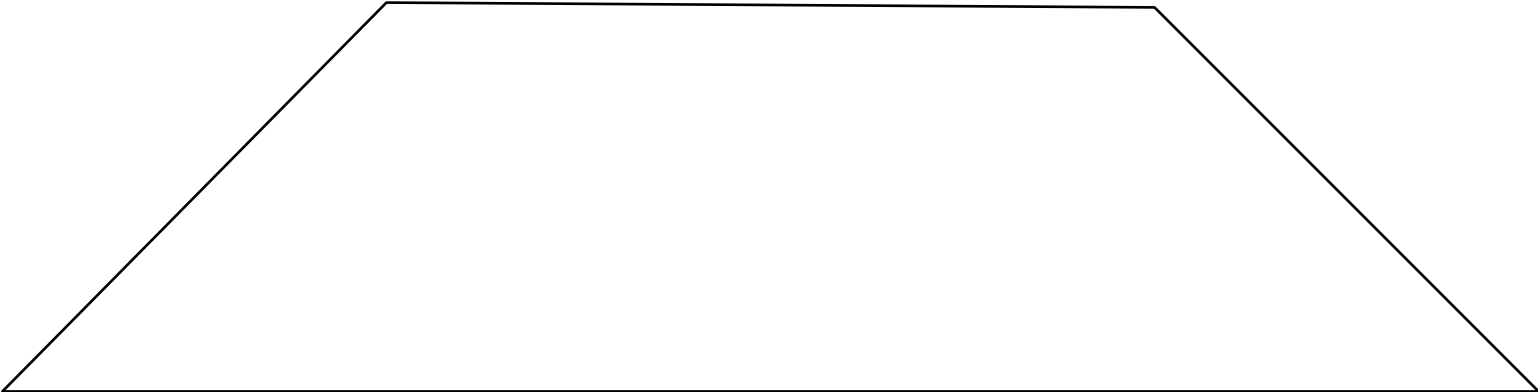


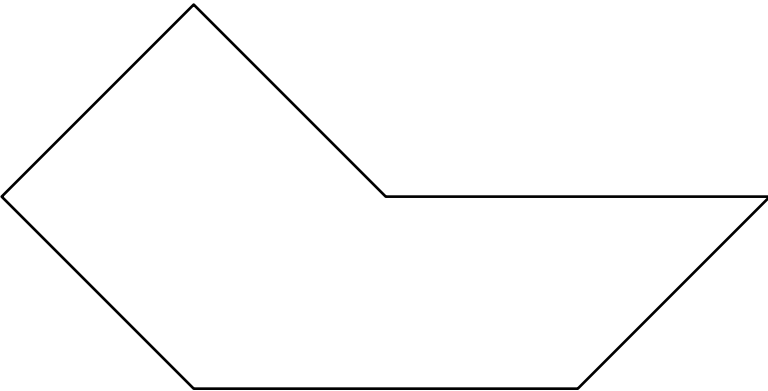
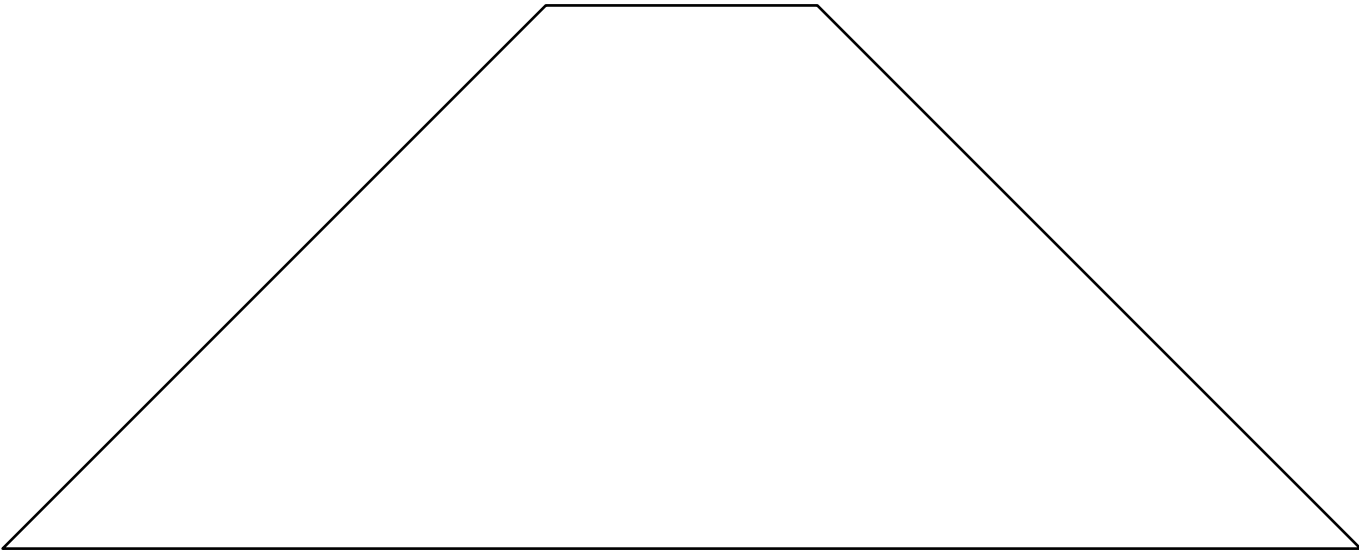


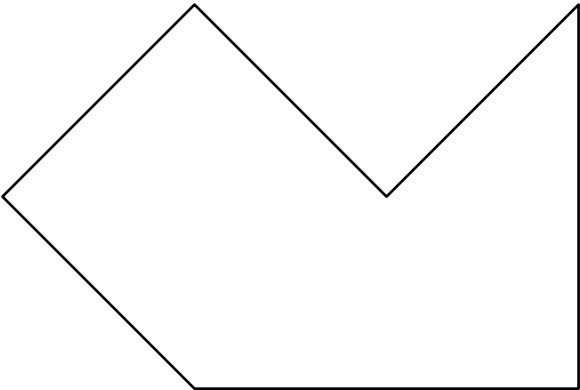
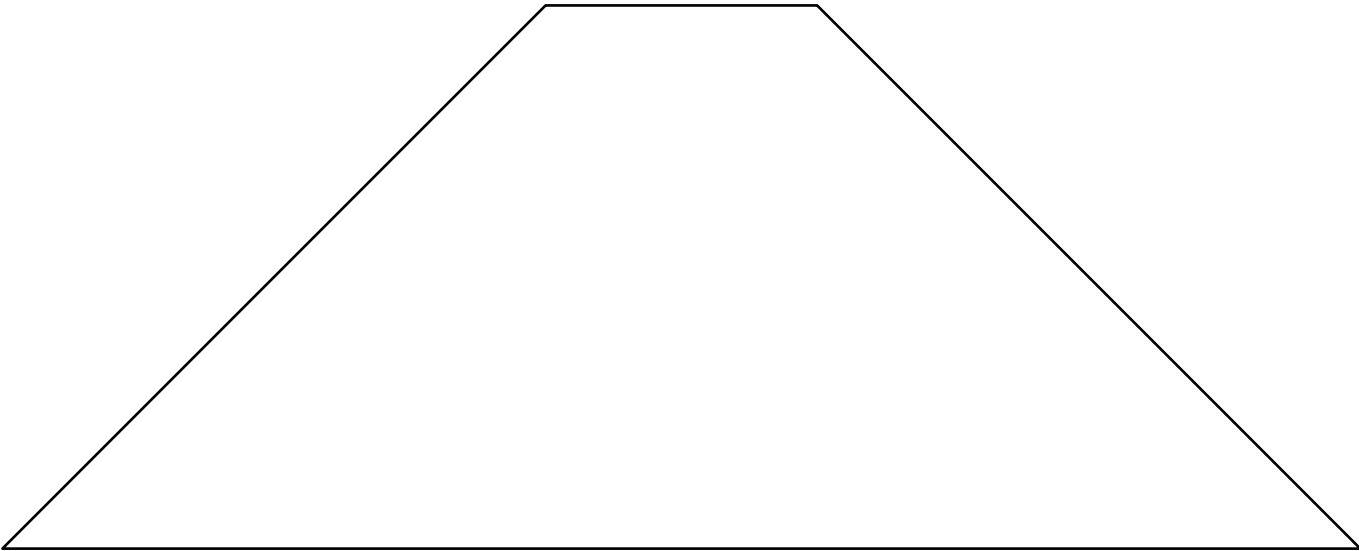


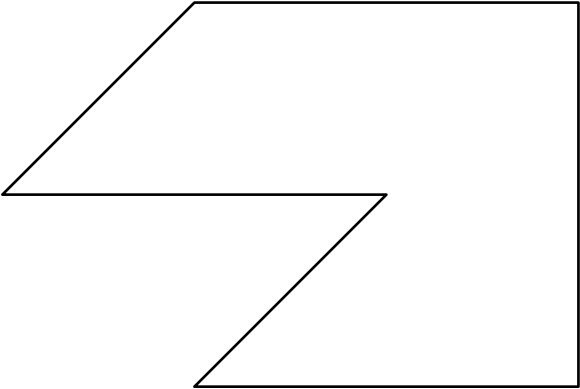
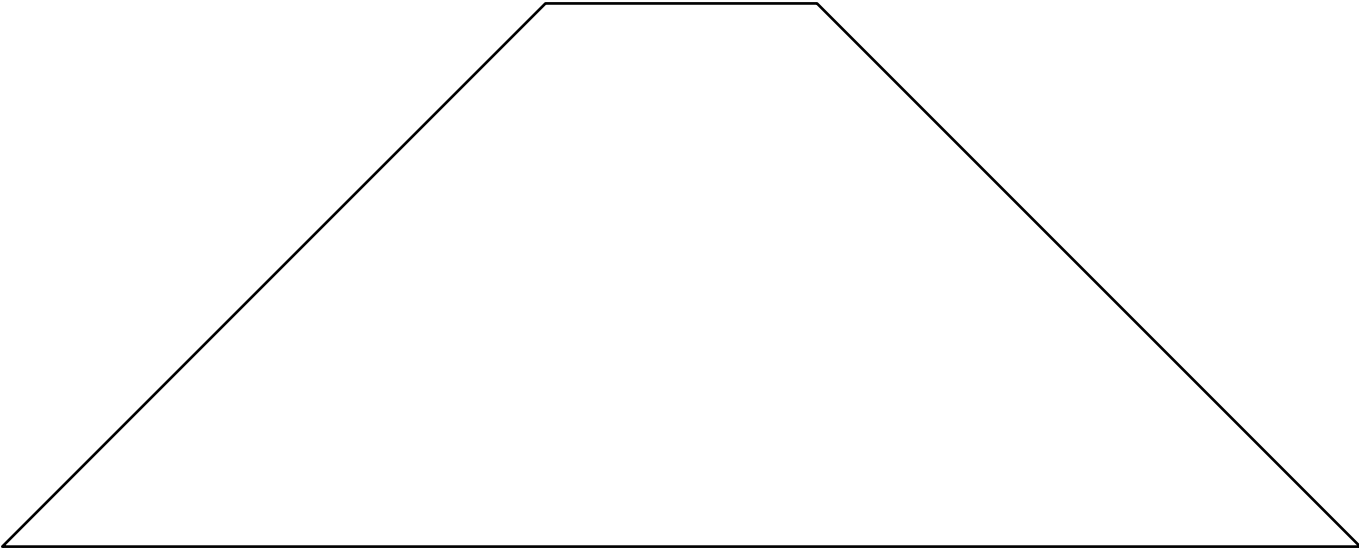


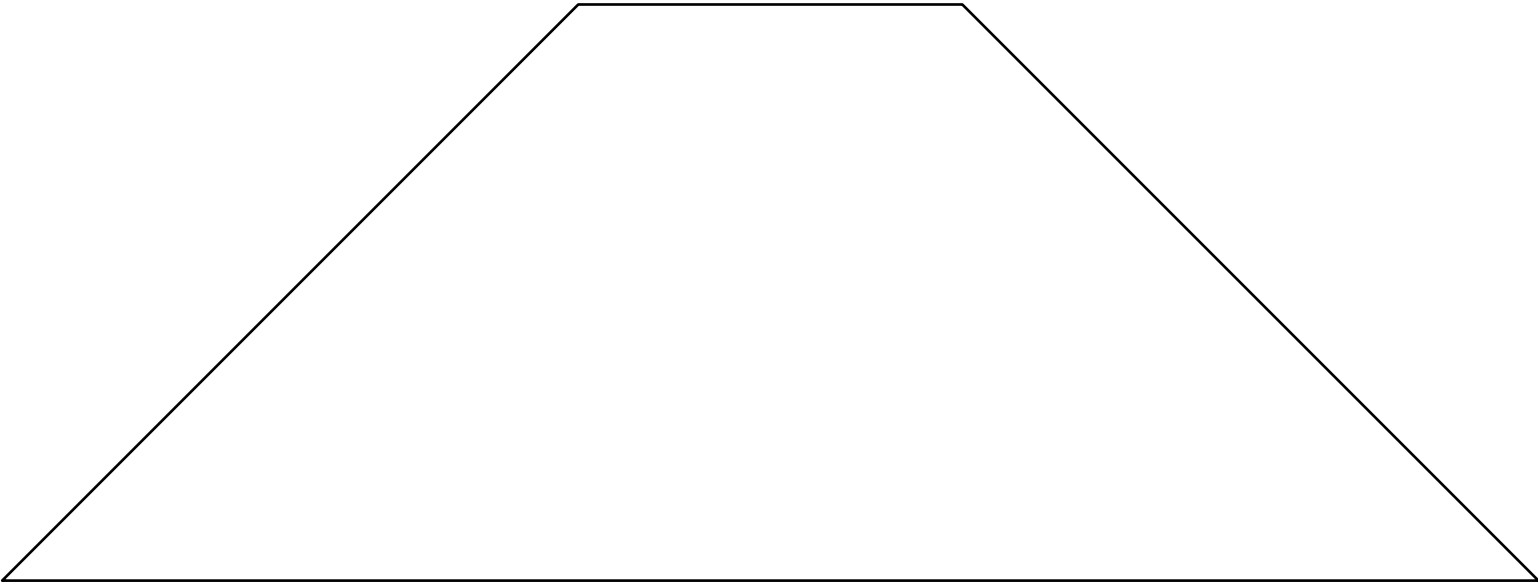


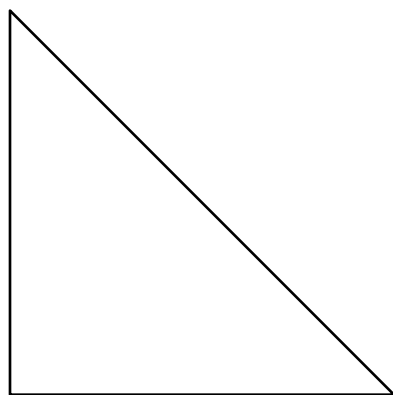
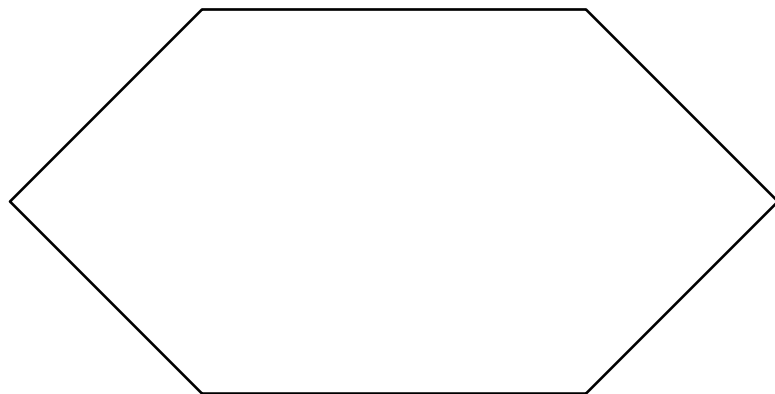


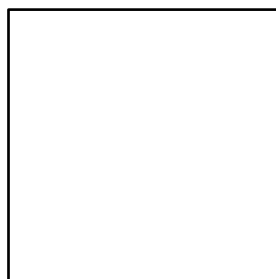
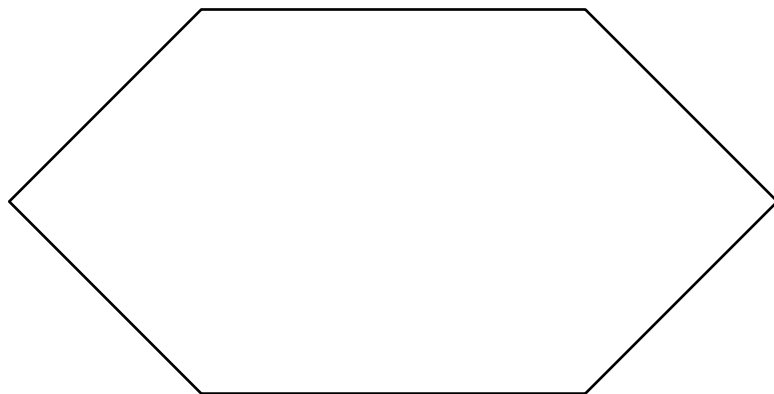


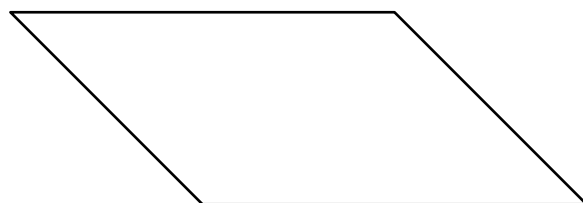
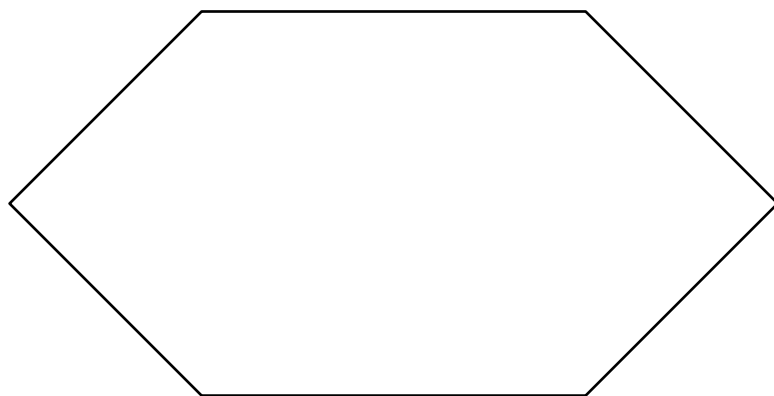


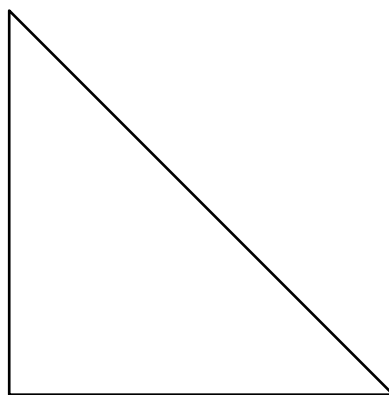
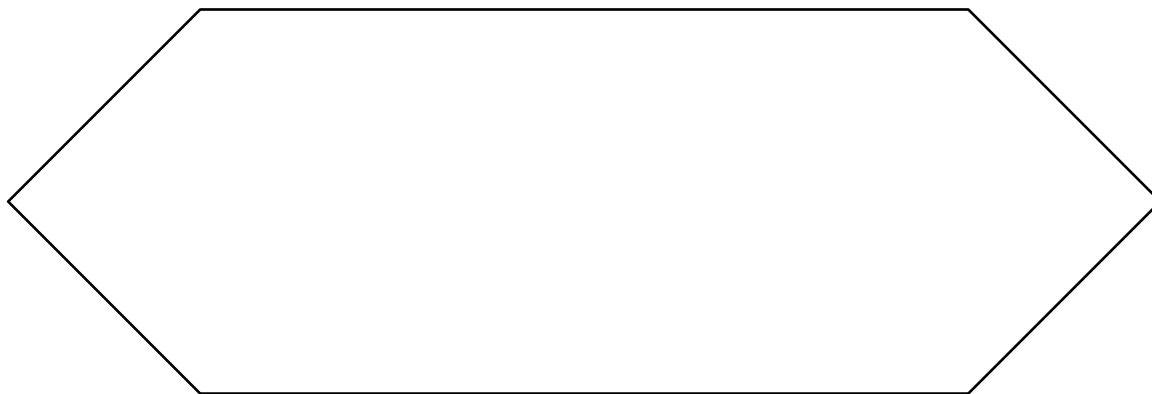


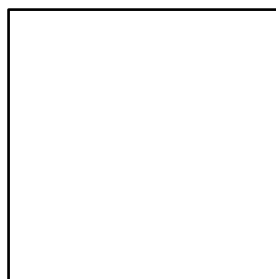
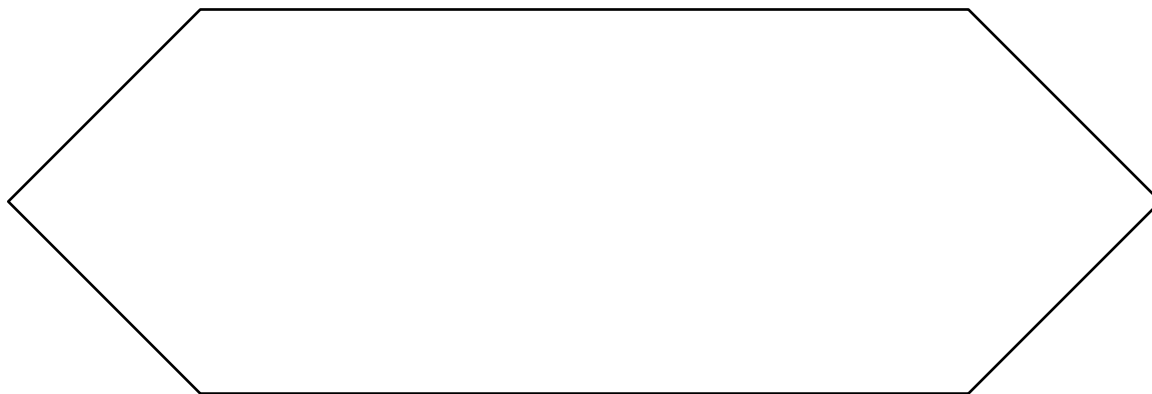


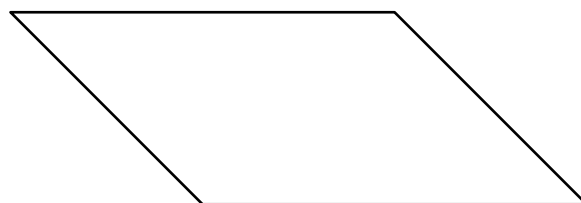
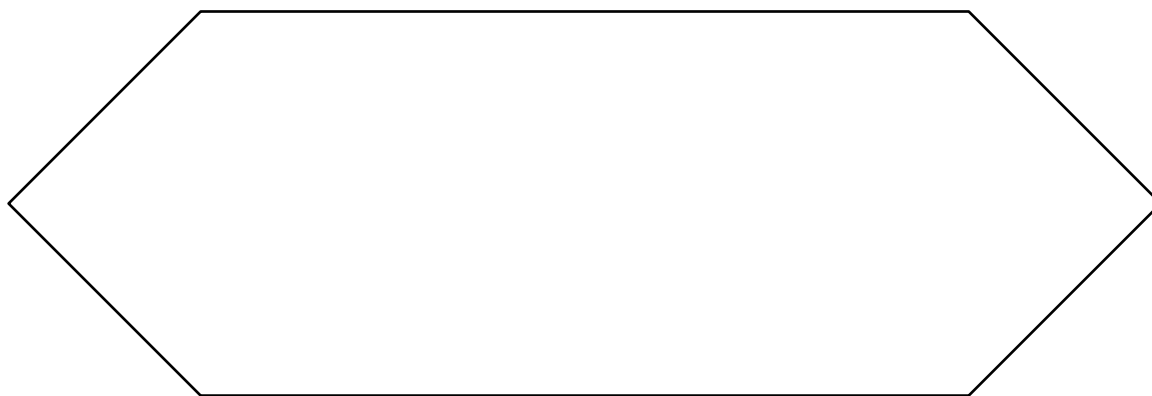


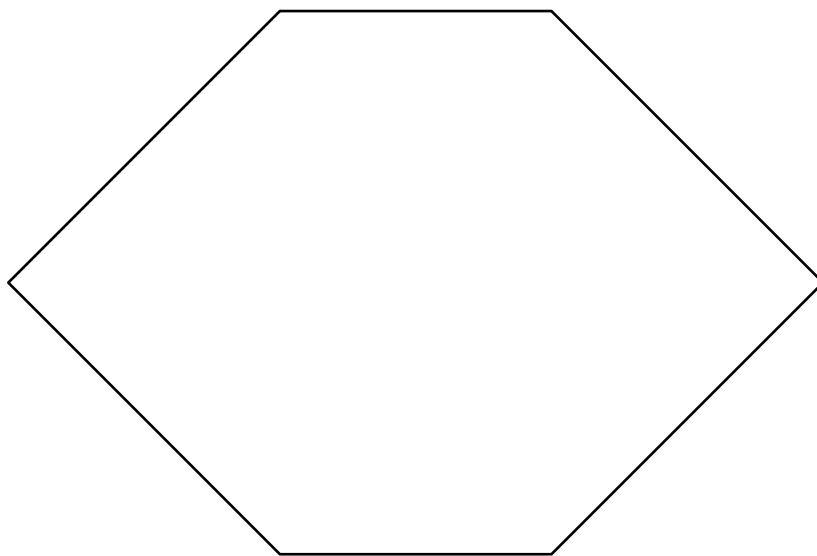


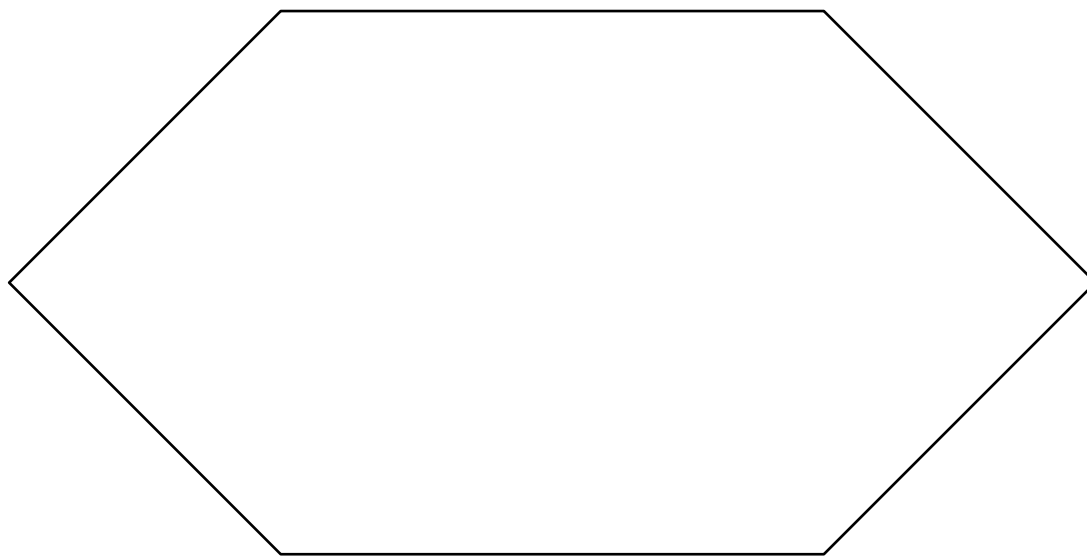


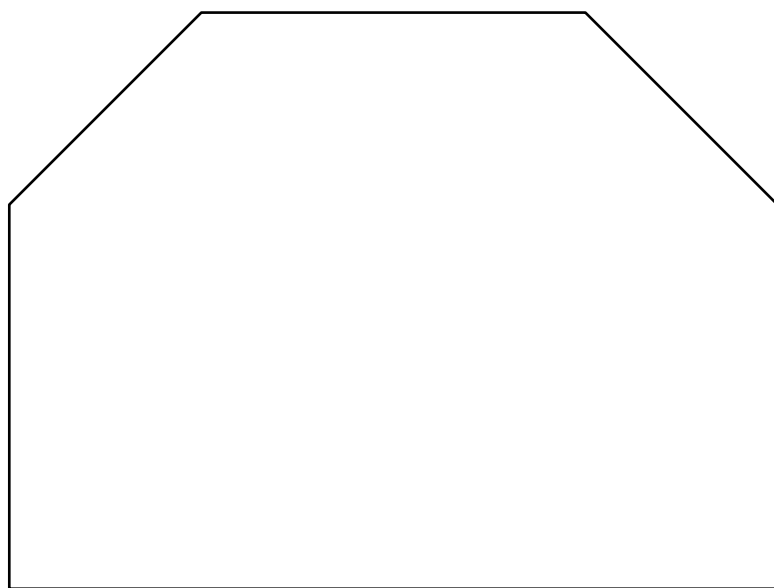


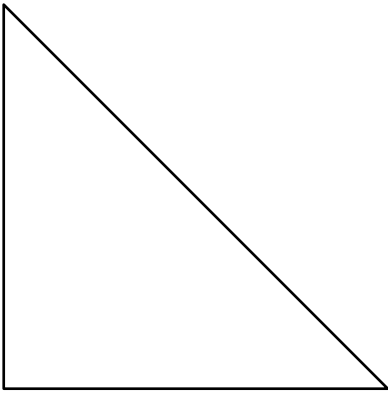
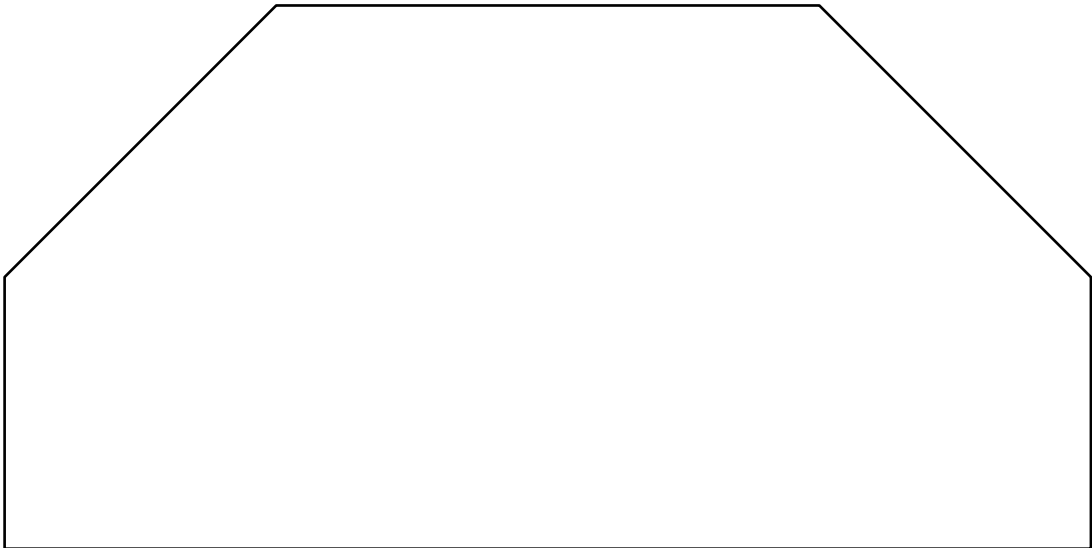


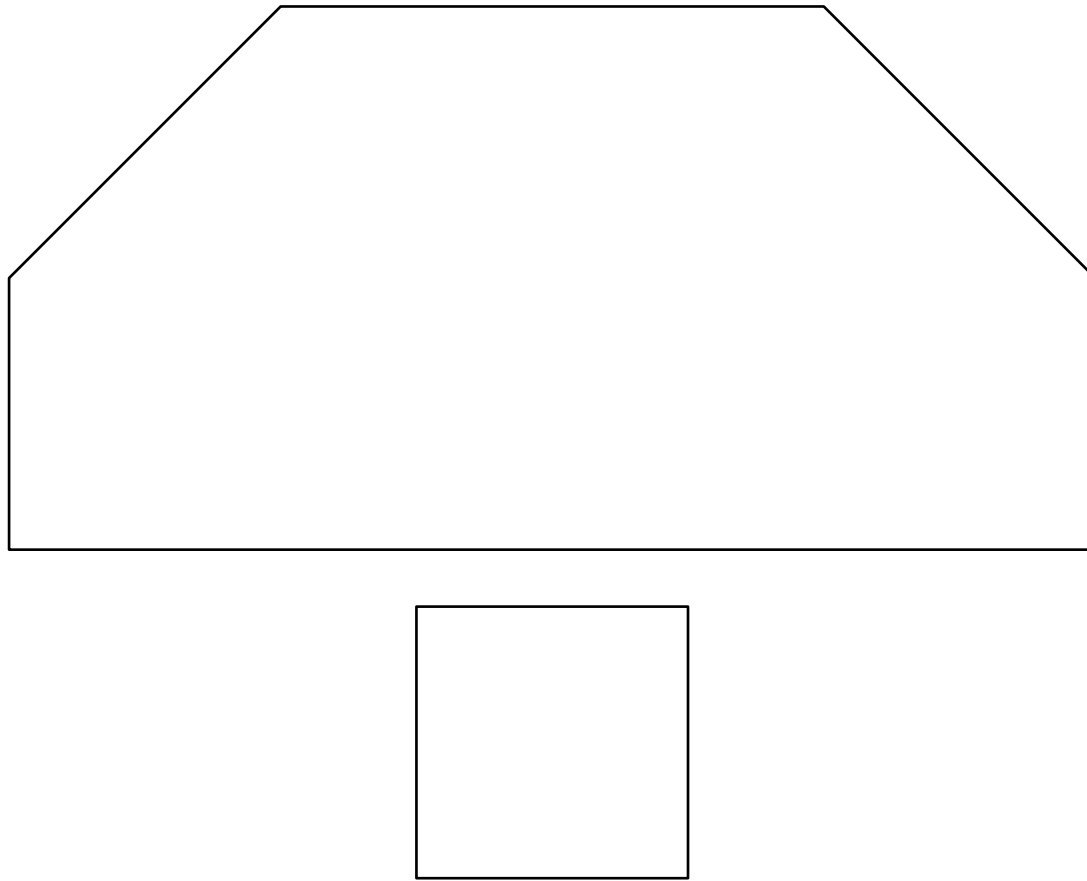


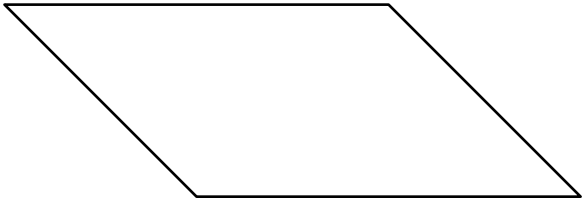
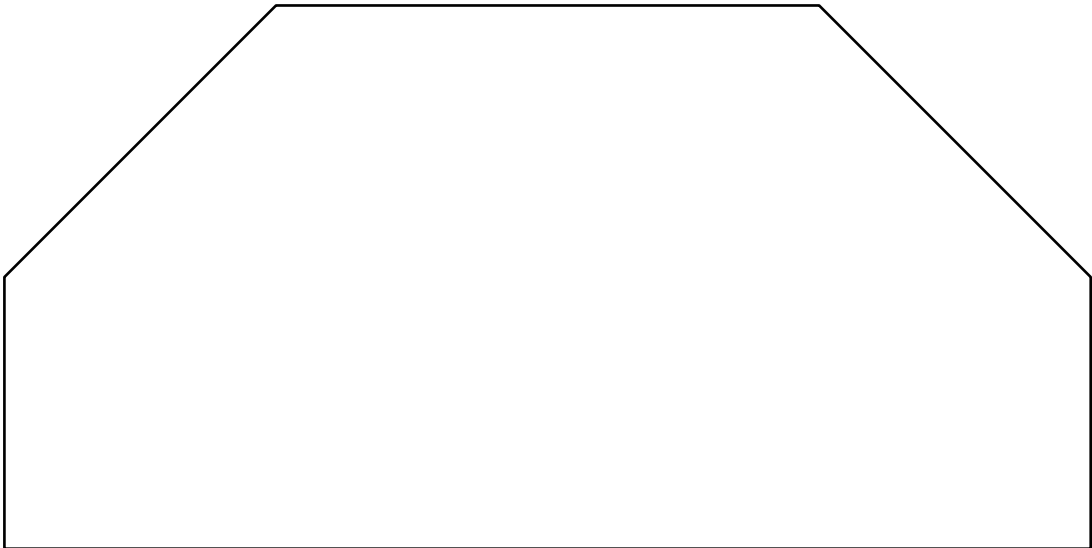


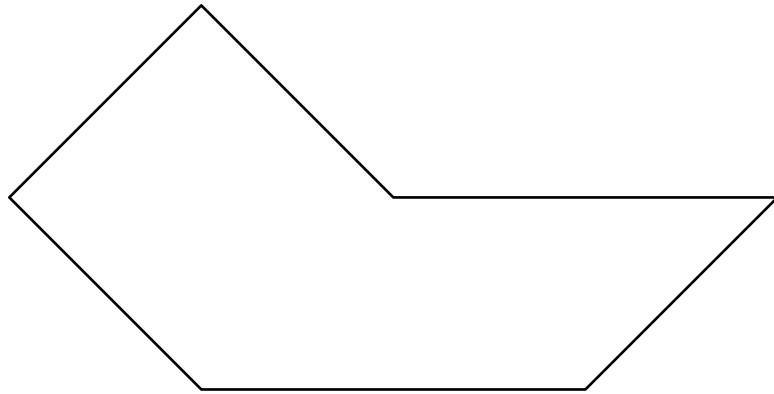
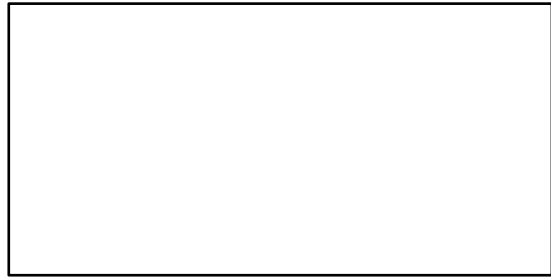


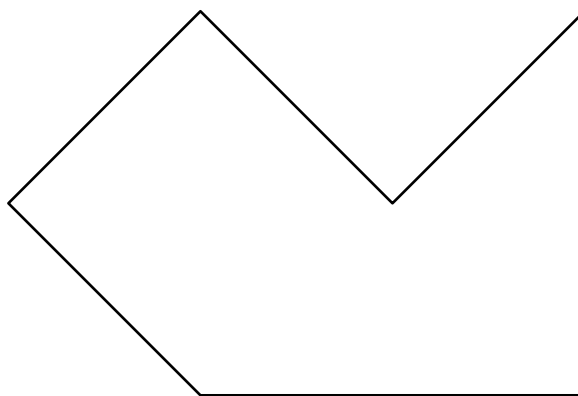


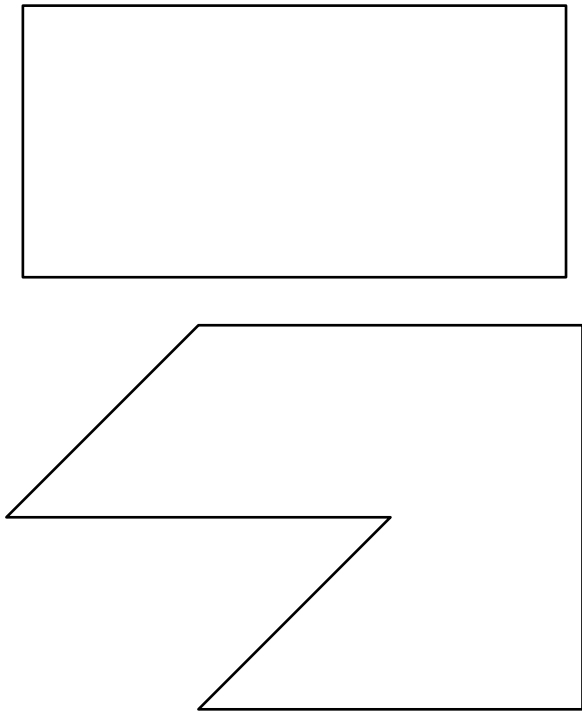


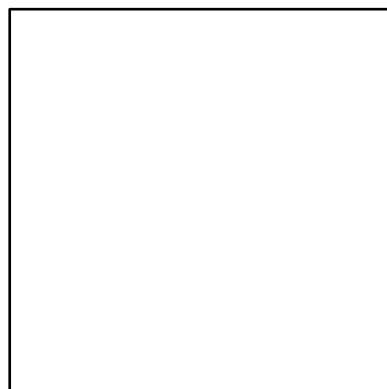


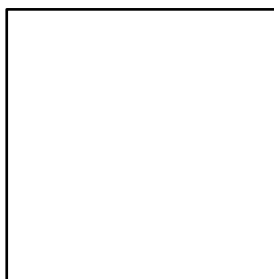
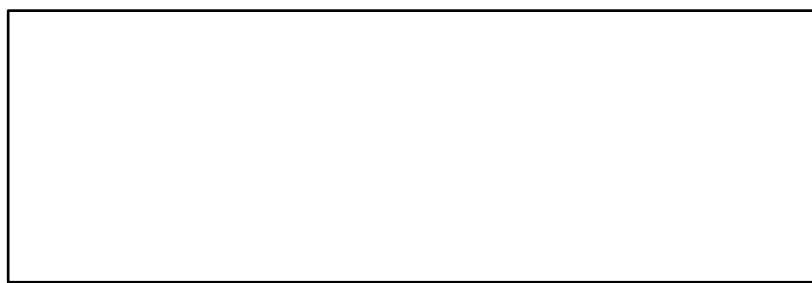


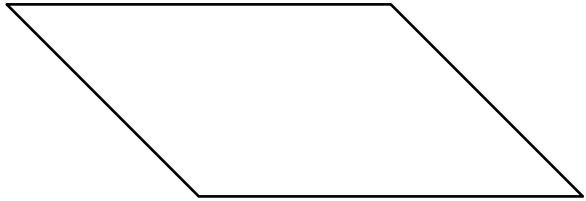
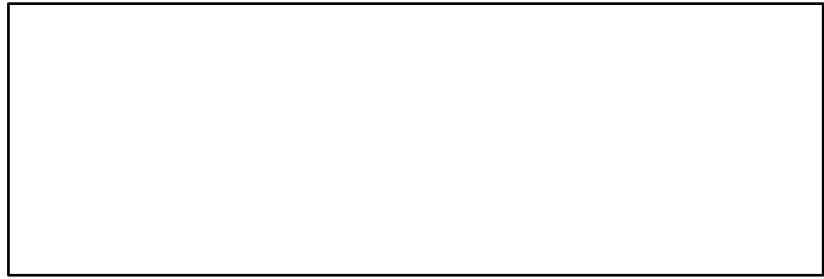


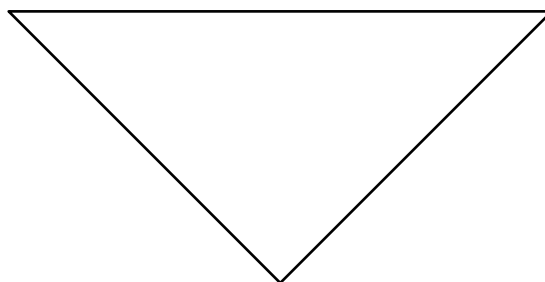






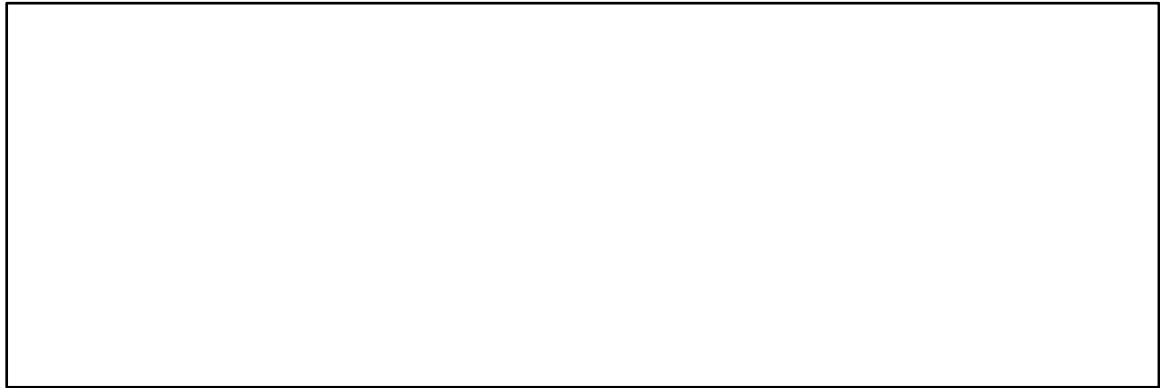


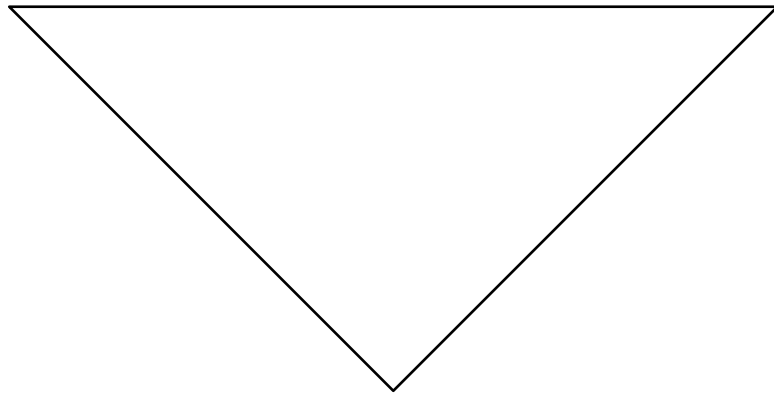
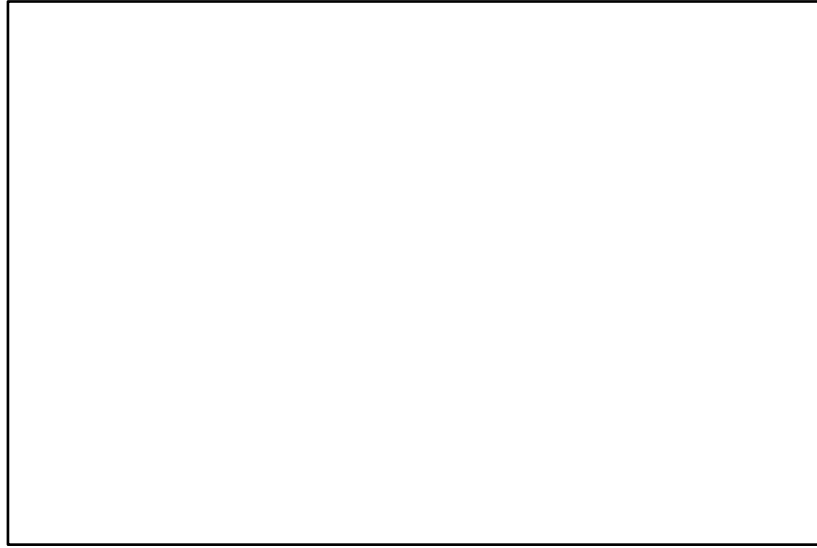


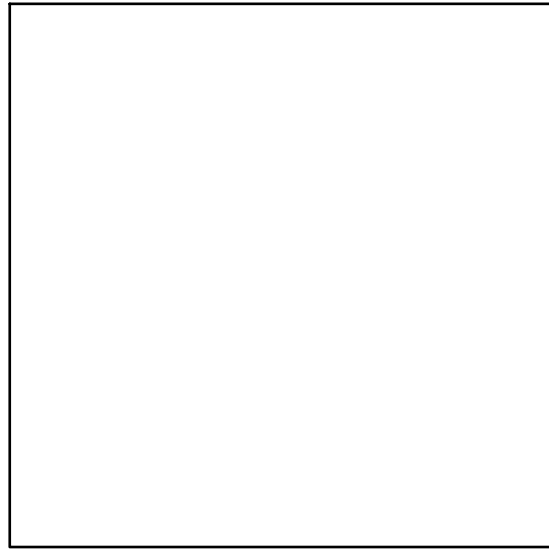
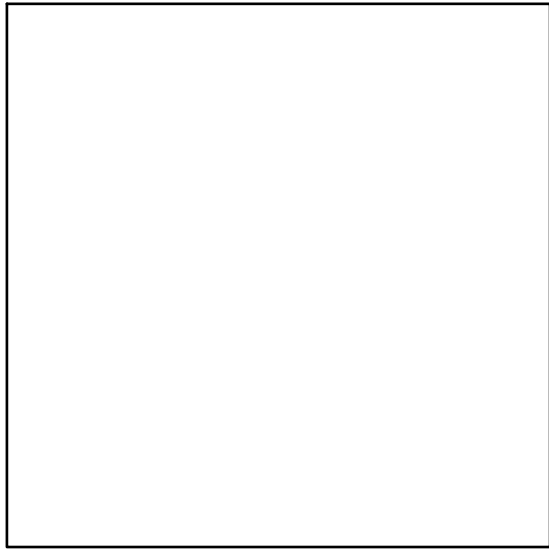


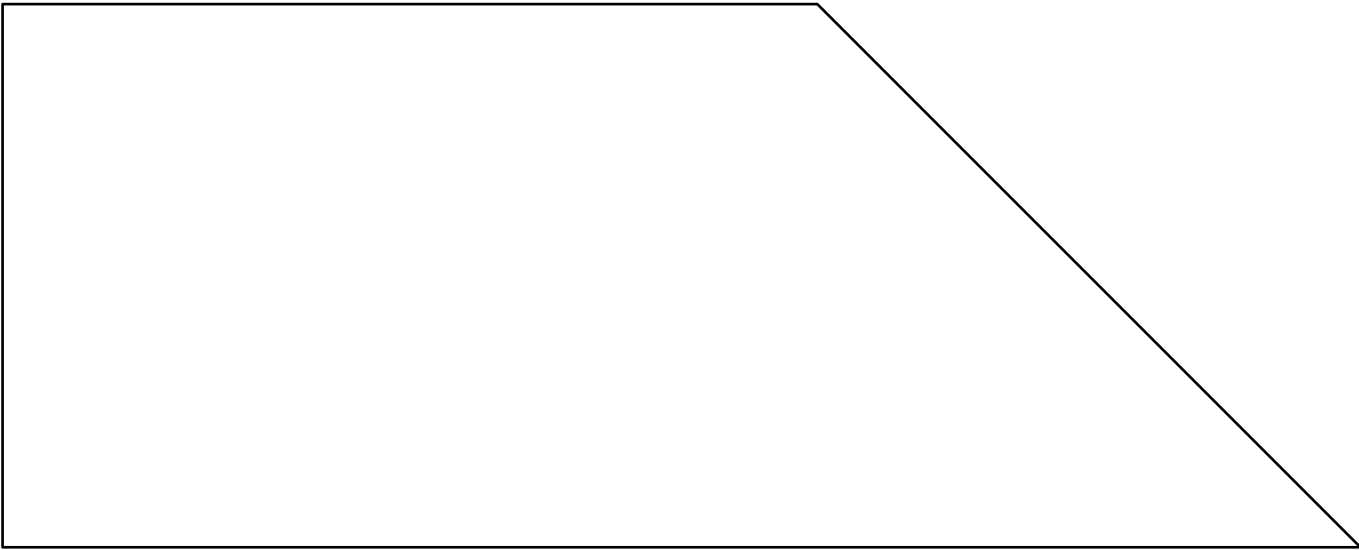


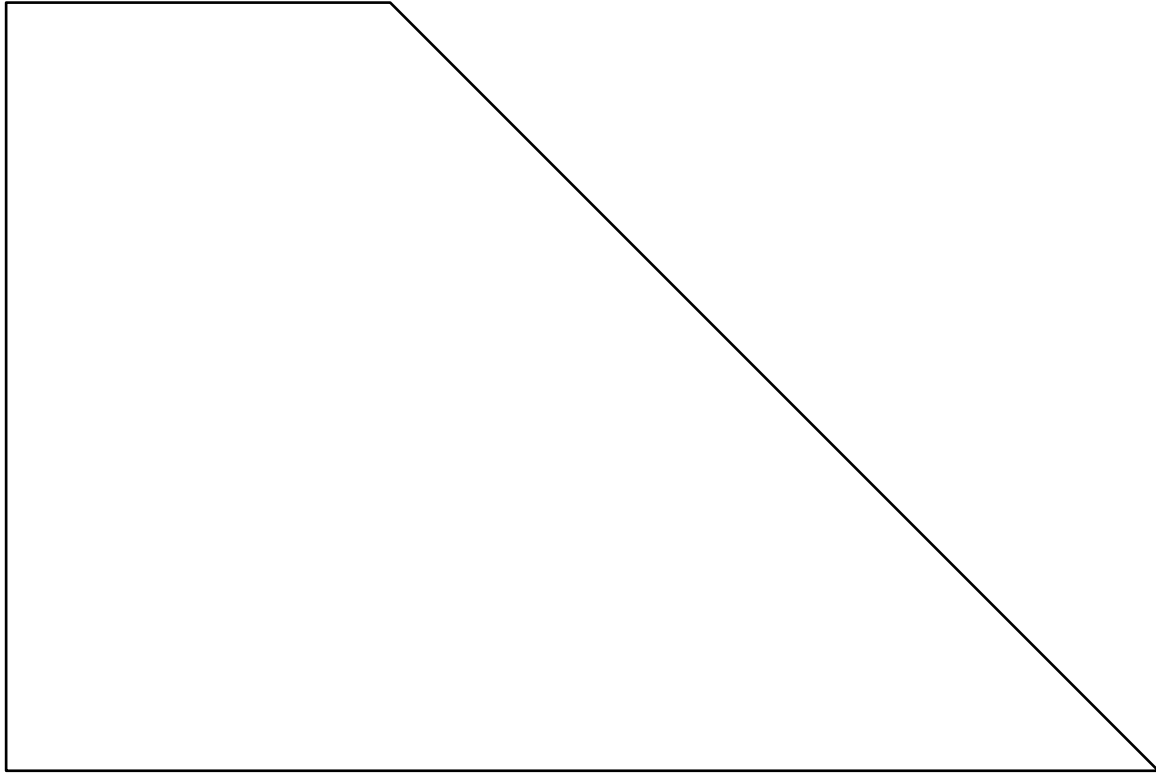


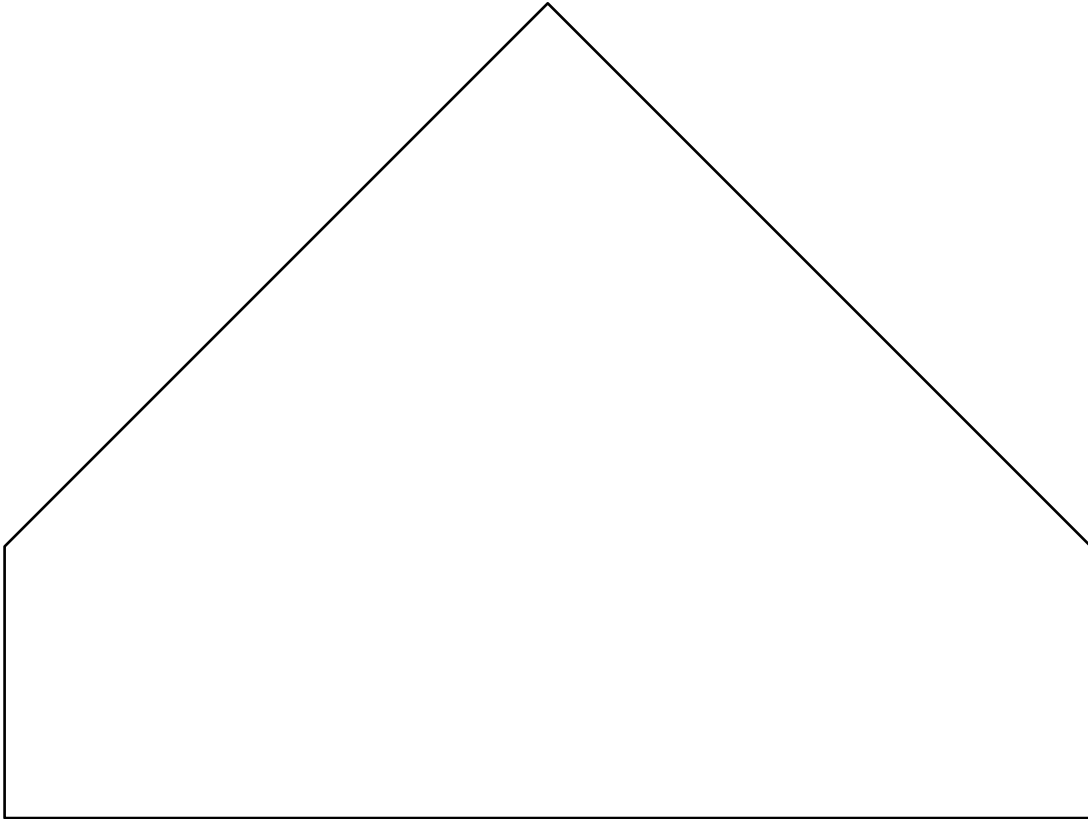


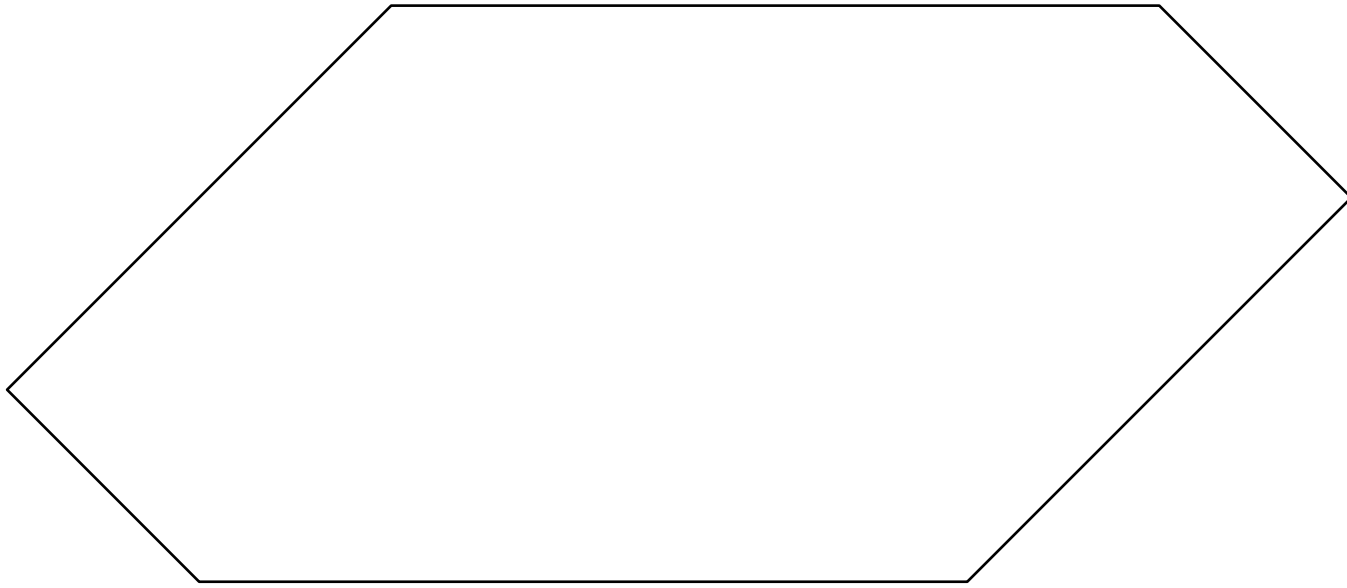


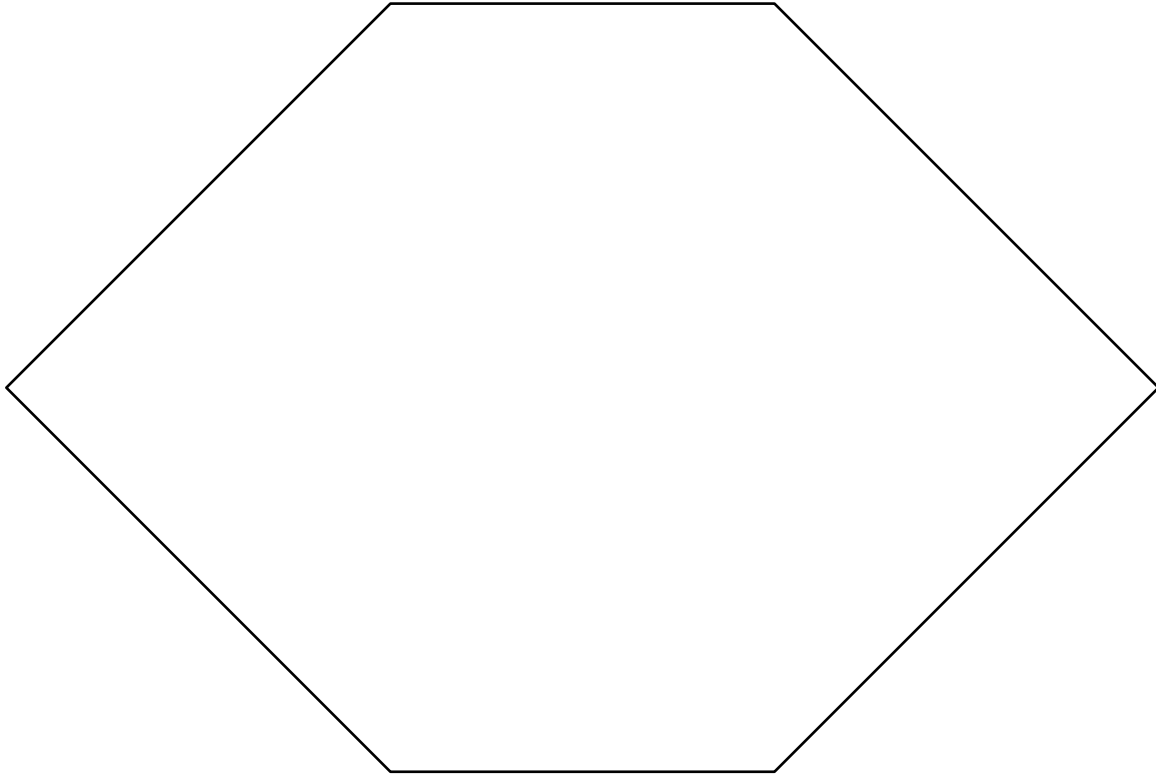


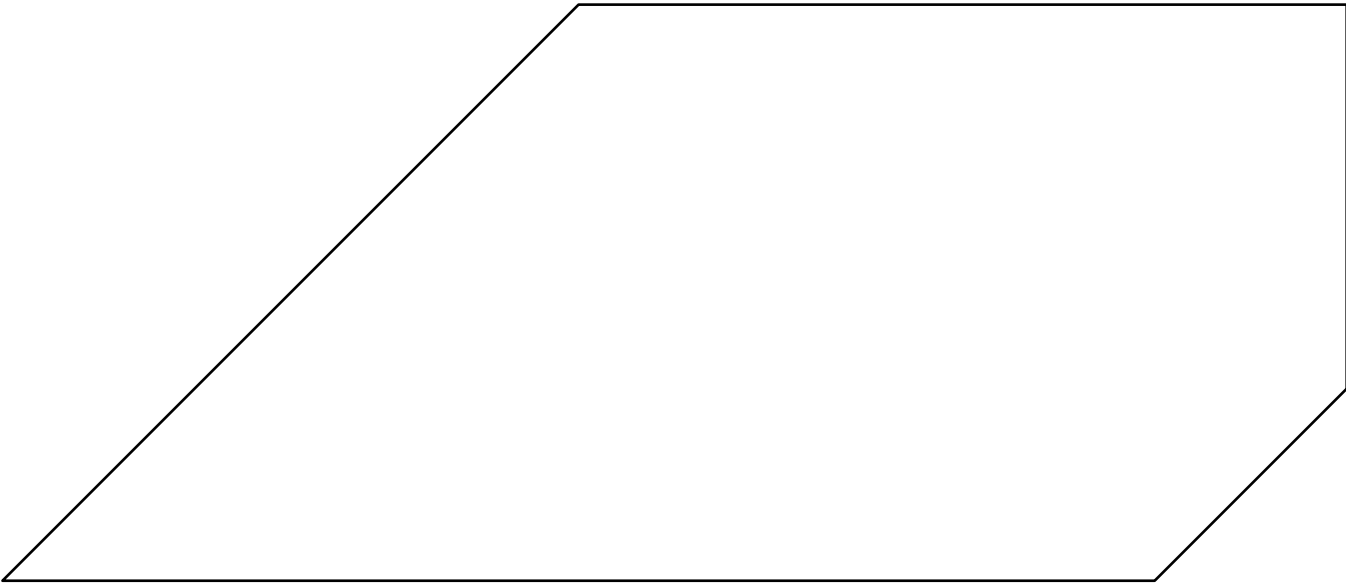


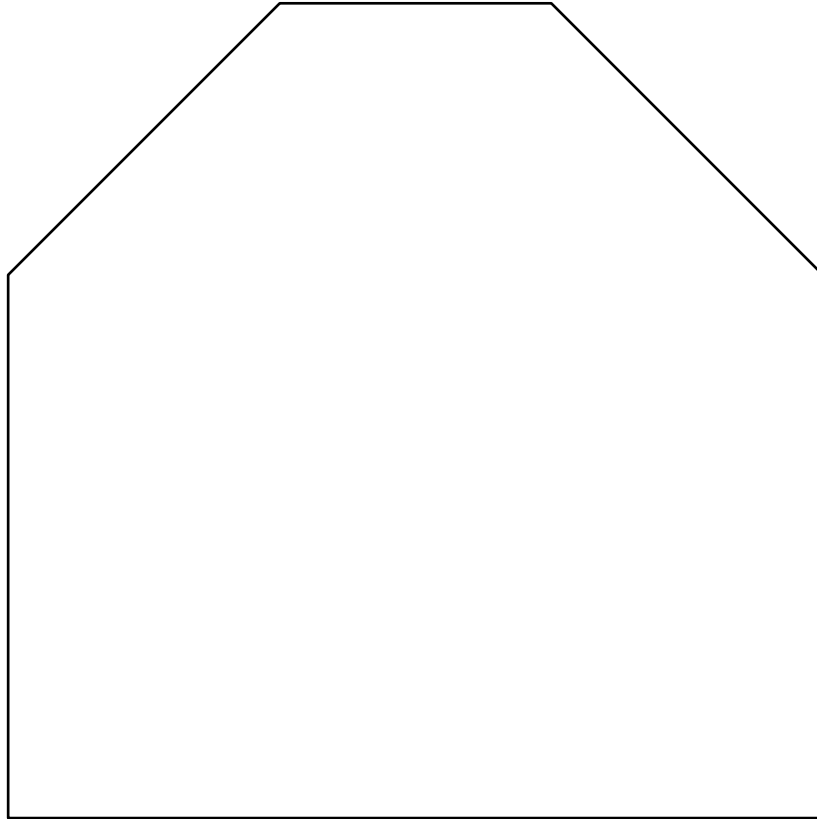


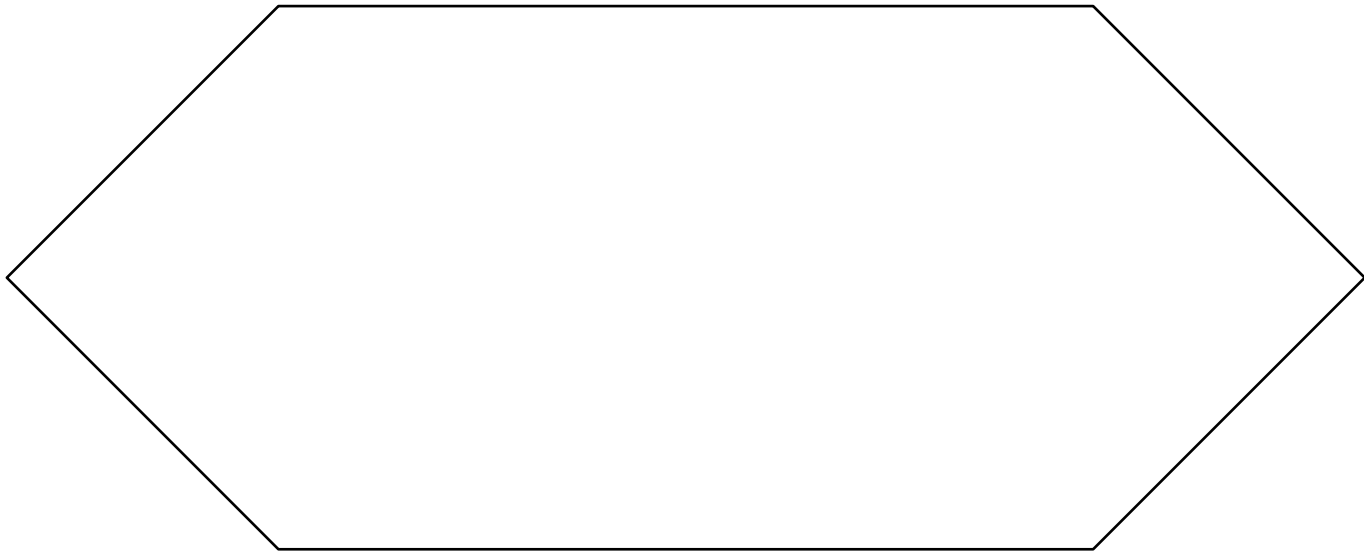


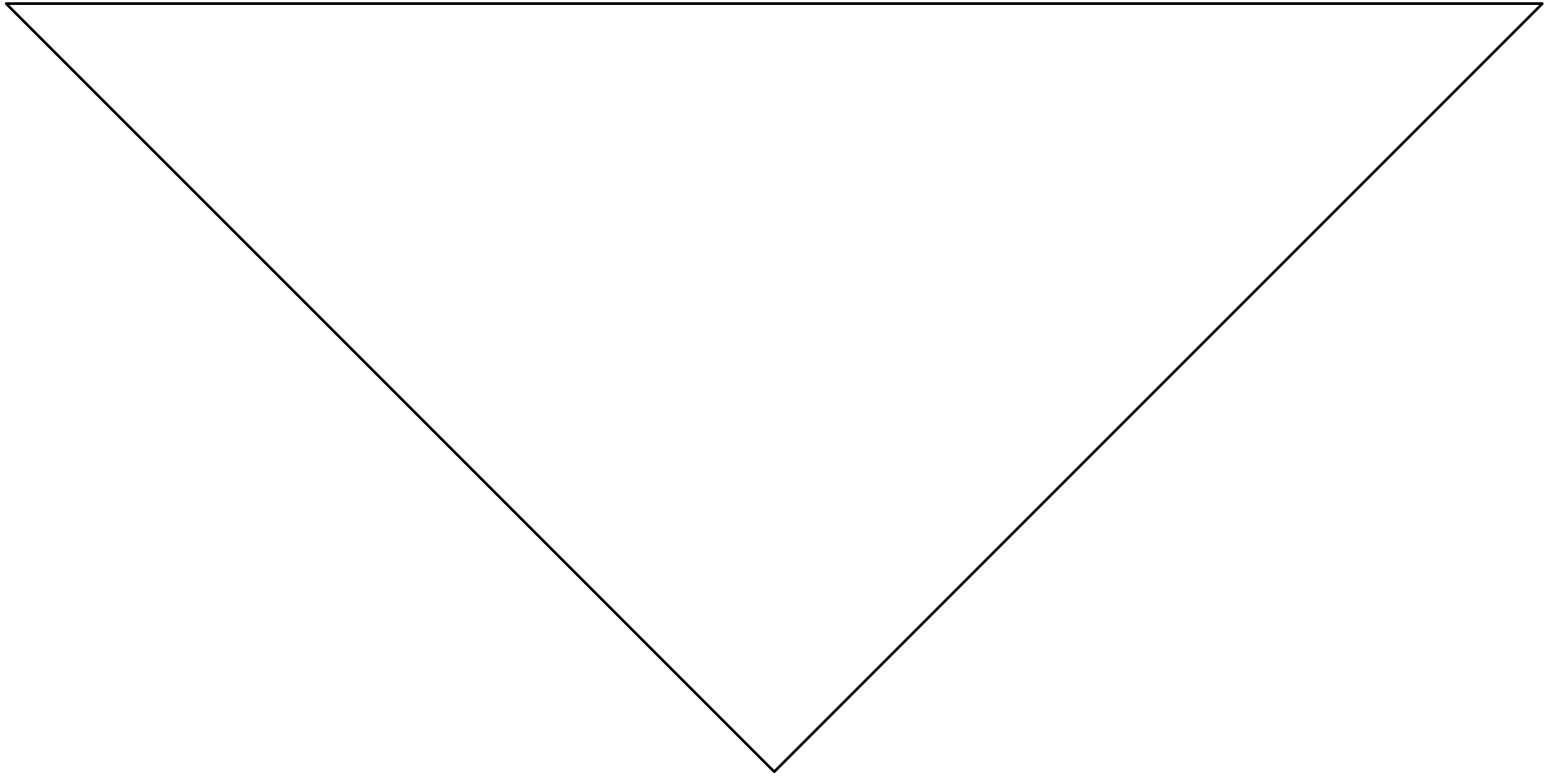


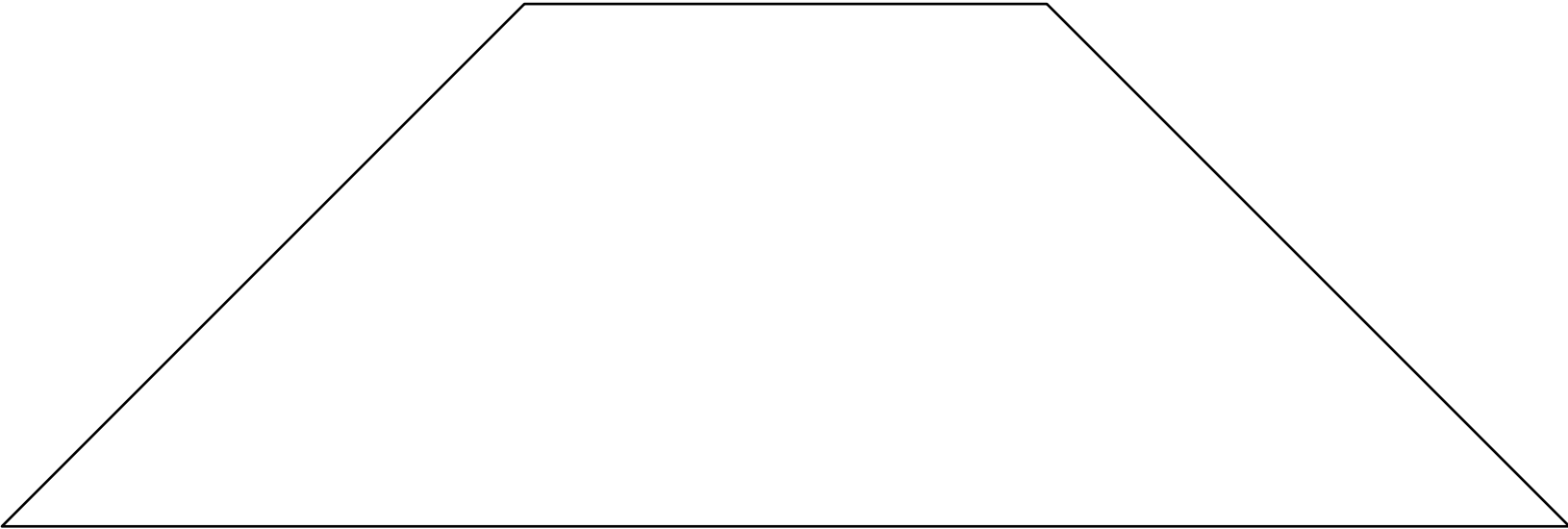


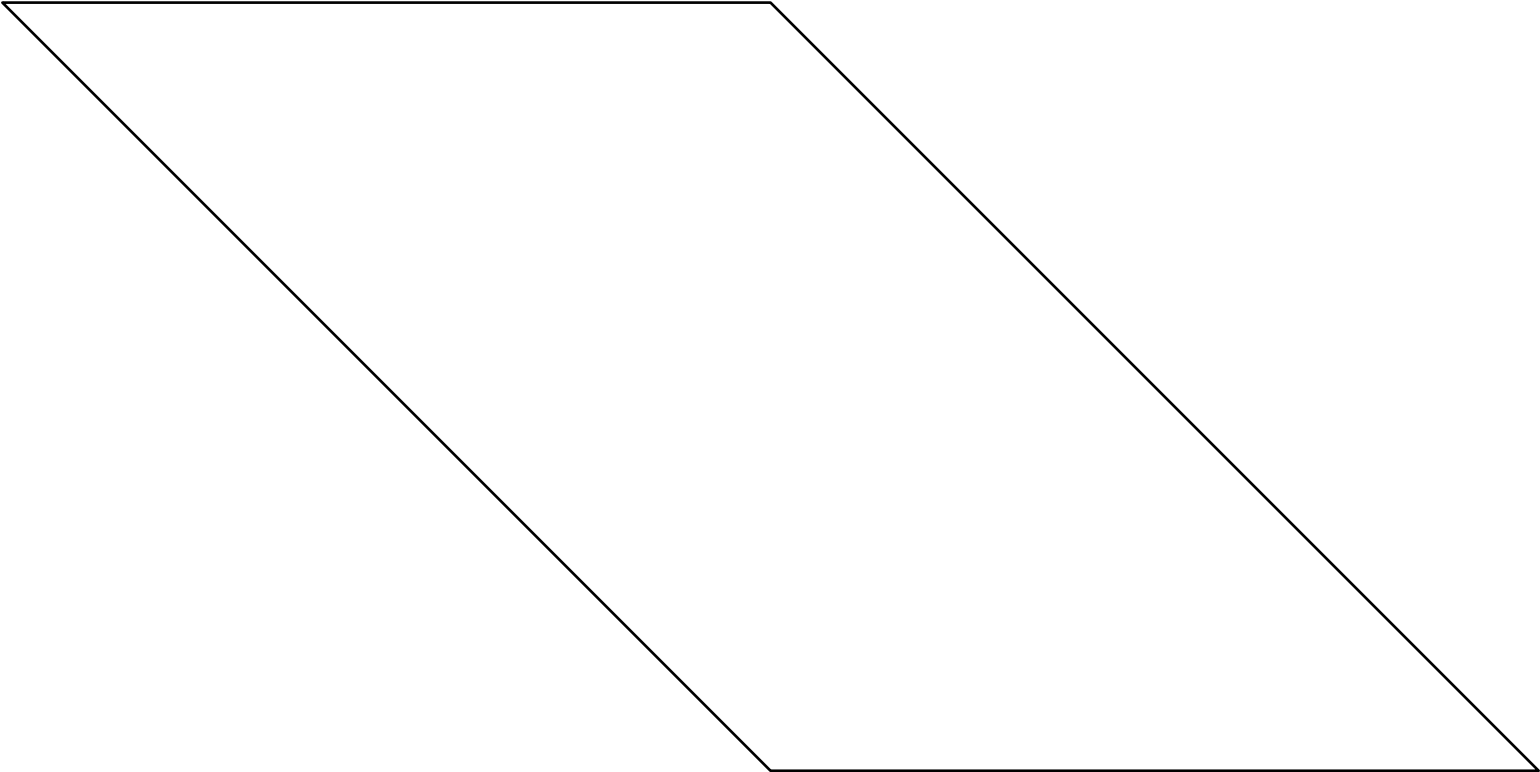


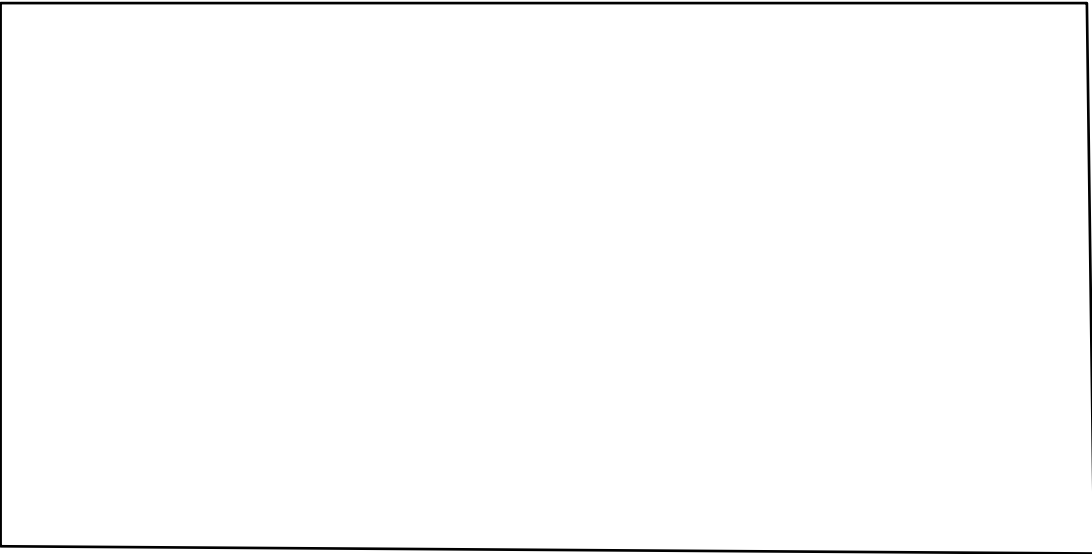


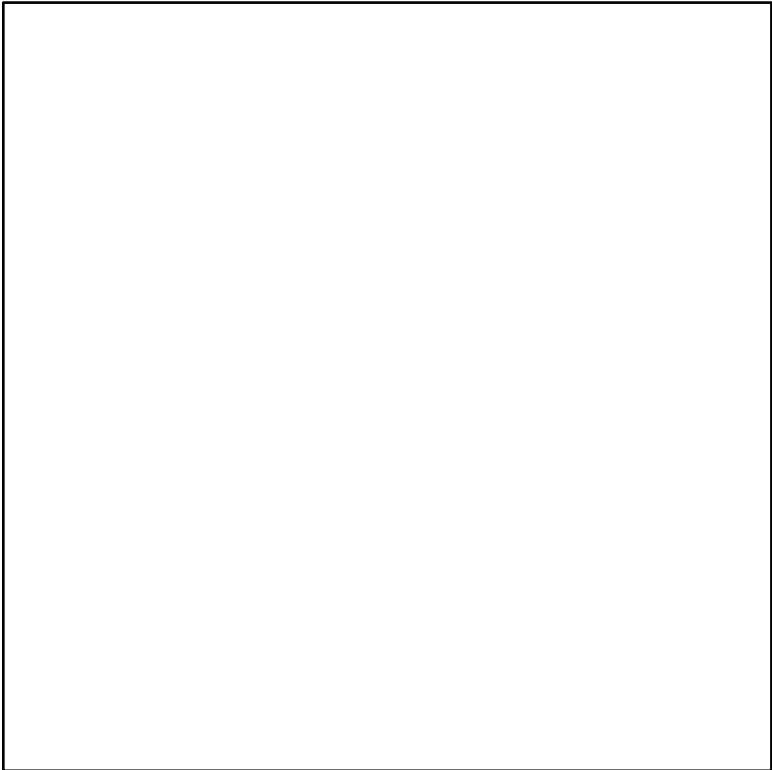






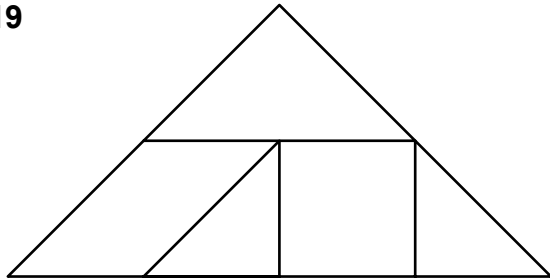




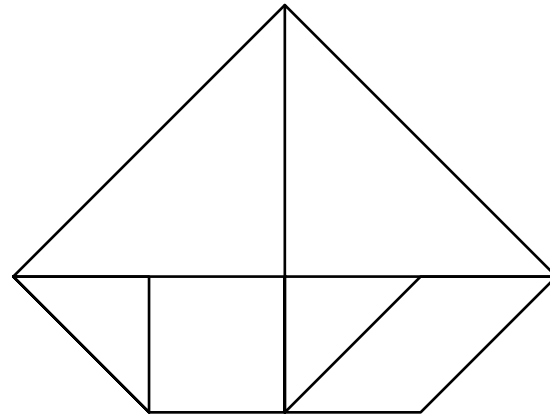


Selected Solutions

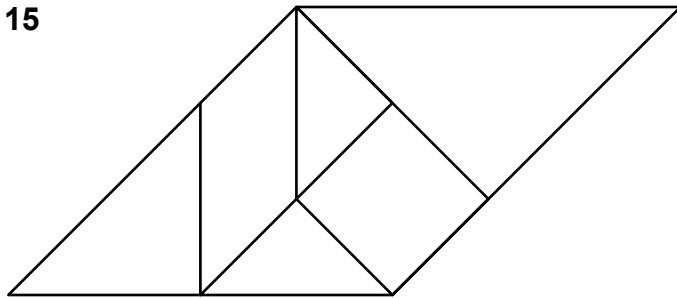
A 19



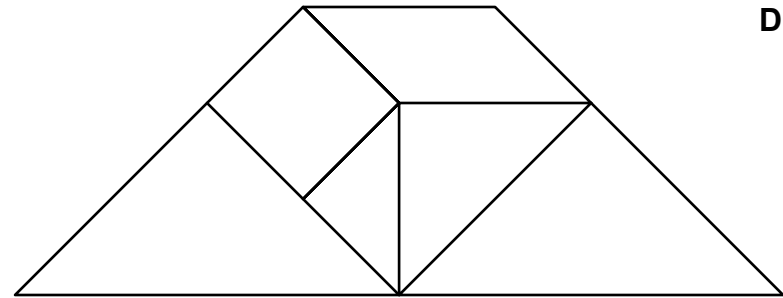
B 17



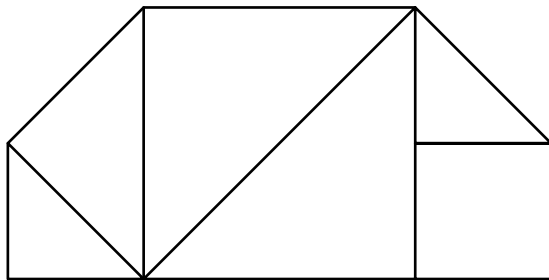
C 15



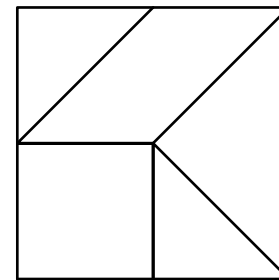
D 14



E 12



F 12



Note that the solutions to A 19 and F 12 can help solve many other puzzles.

