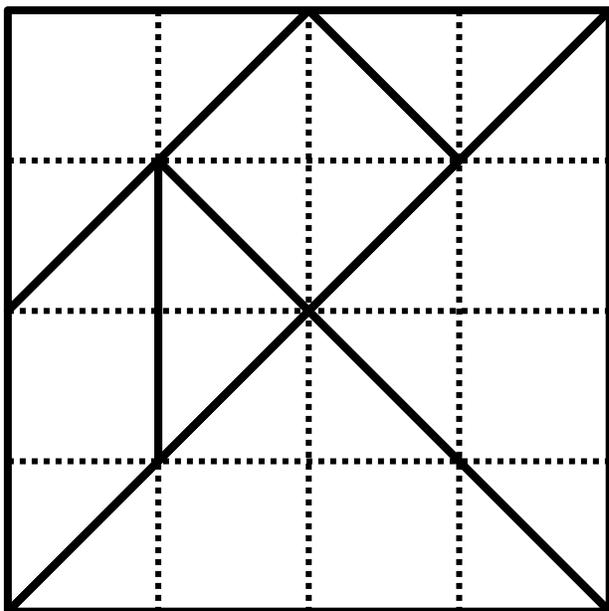
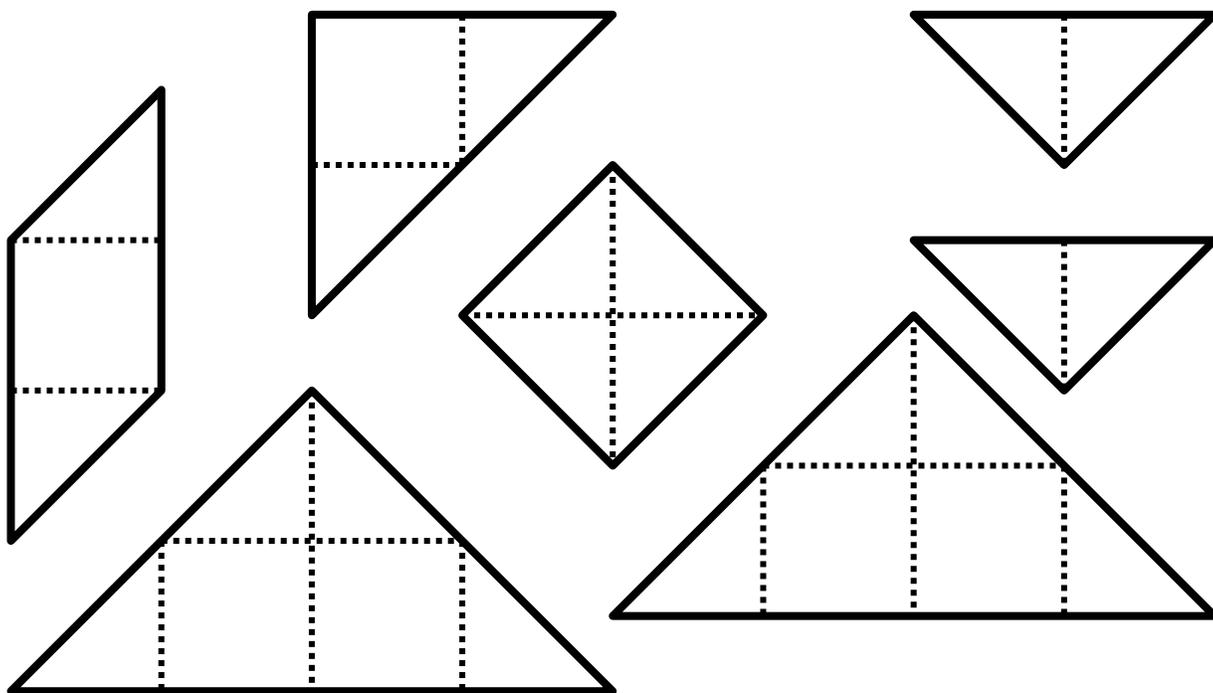


TANGRAM ET SYMÉTRIE ORTHOGONALE

Les sept pièces du puzzle formant un carré.

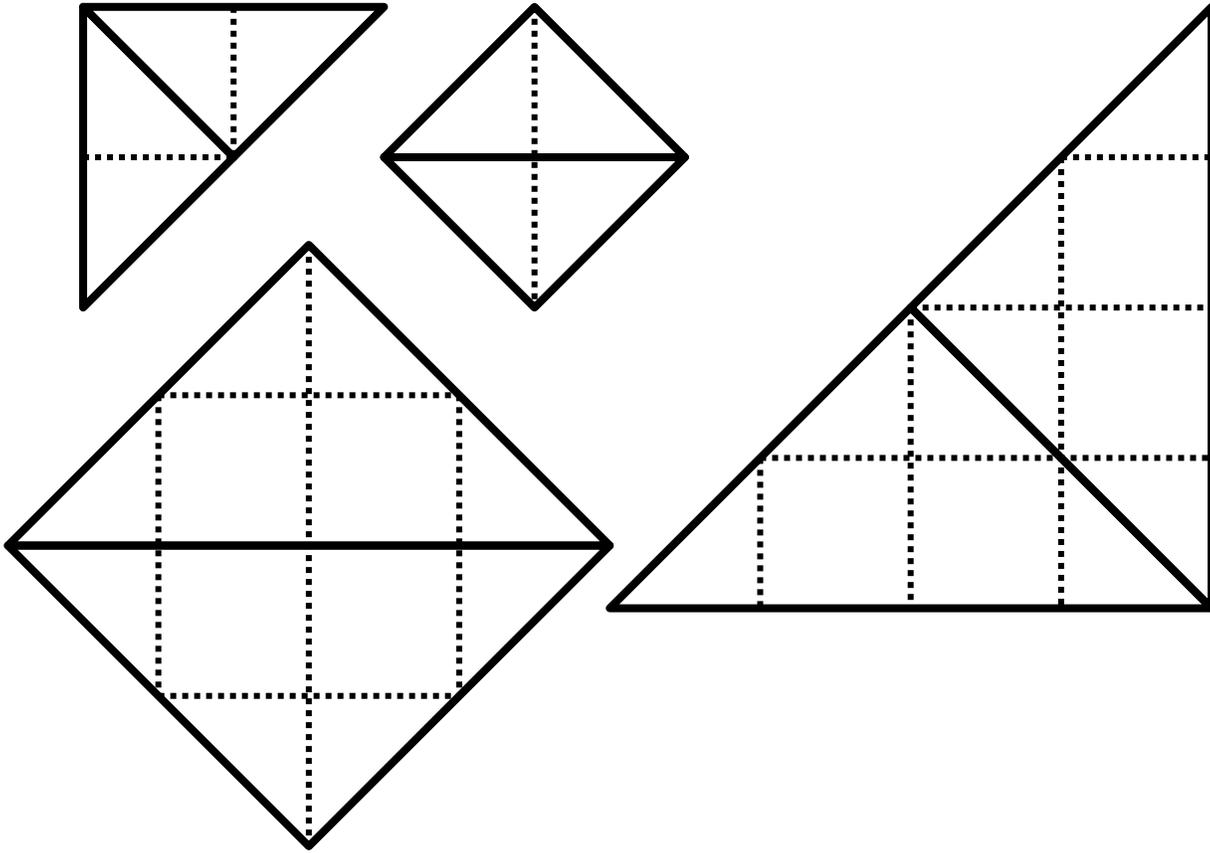


Les sept pièces du puzzle. Certaines admettent un ou plusieurs axes de symétrie à faire trouver par les élèves.

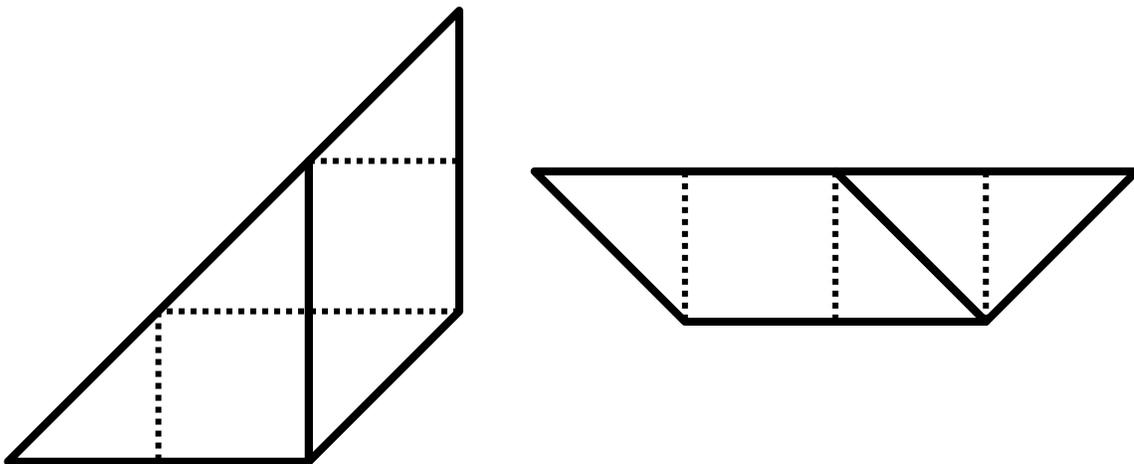


Recherche d'assemblages de deux pièces pour obtenir un polygone admettant un axe de symétrie.

Le puzzle comporte des pièces identiques qui peuvent être assemblées.

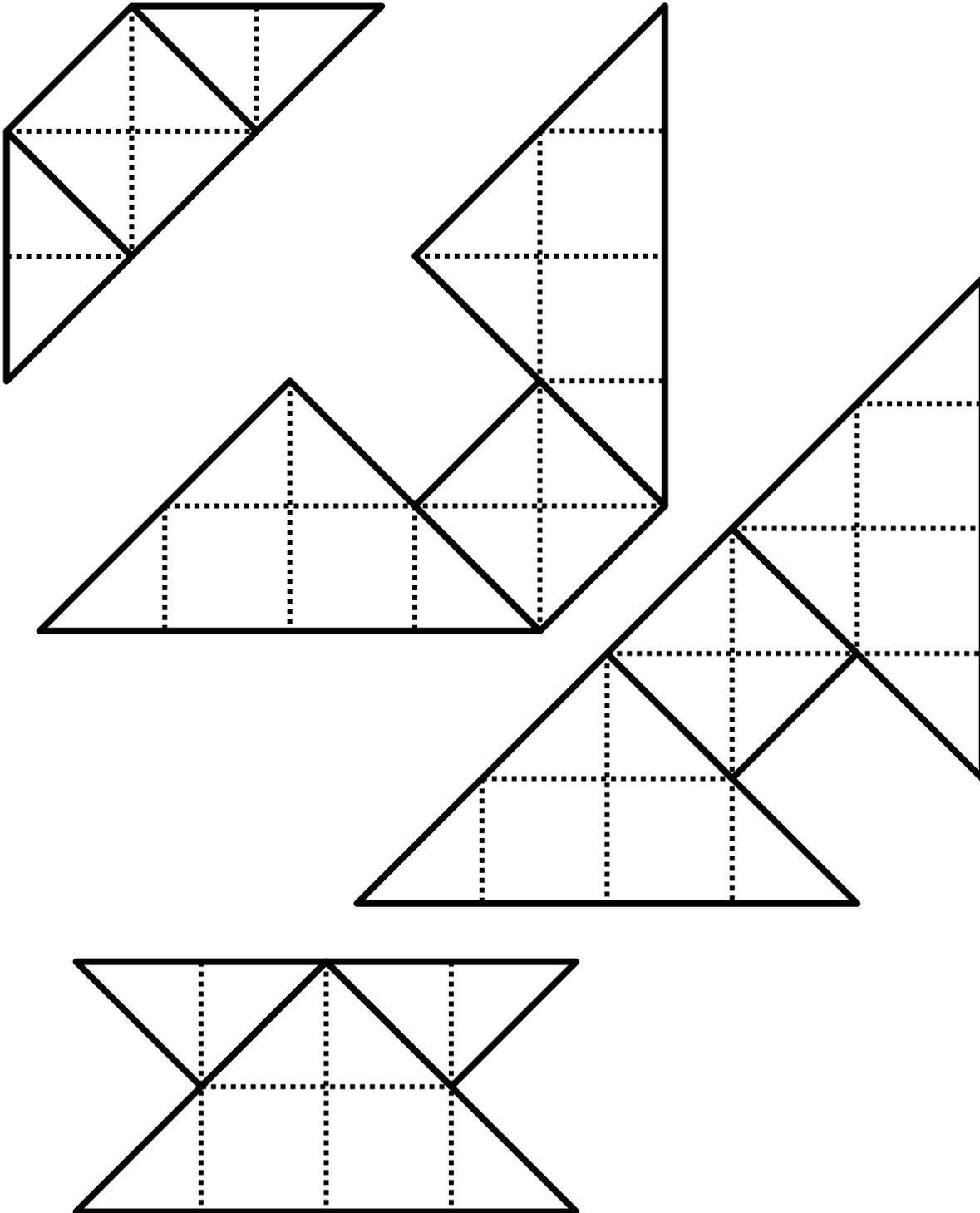


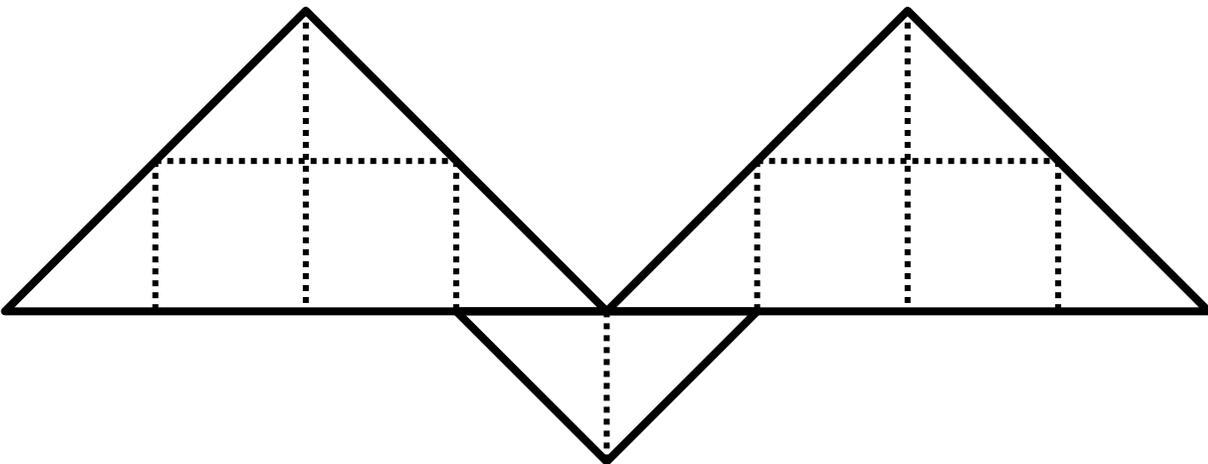
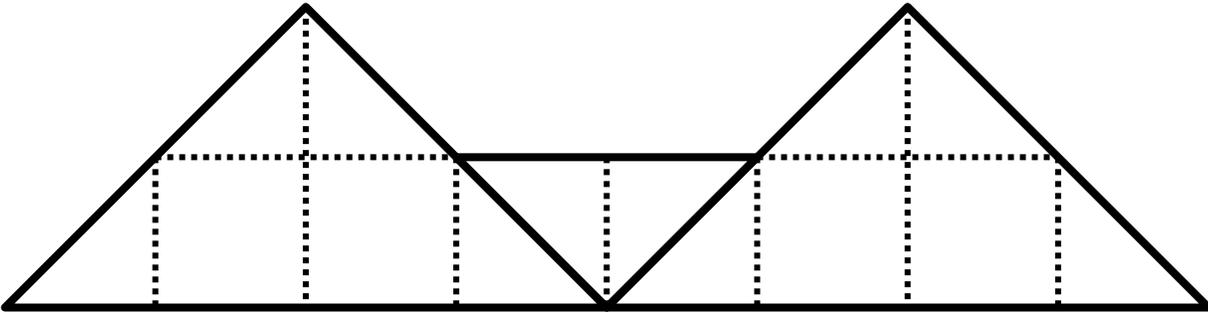
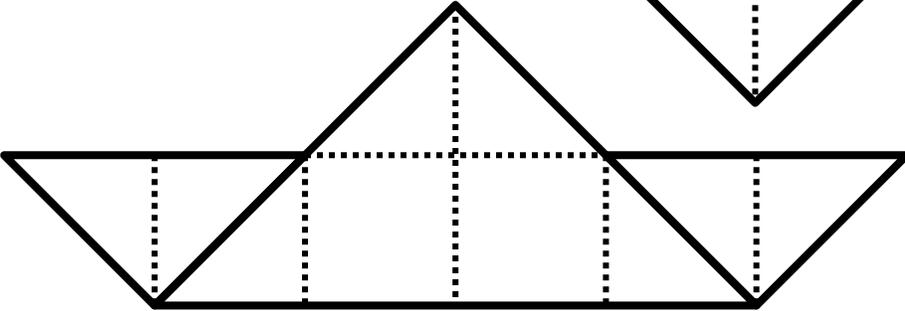
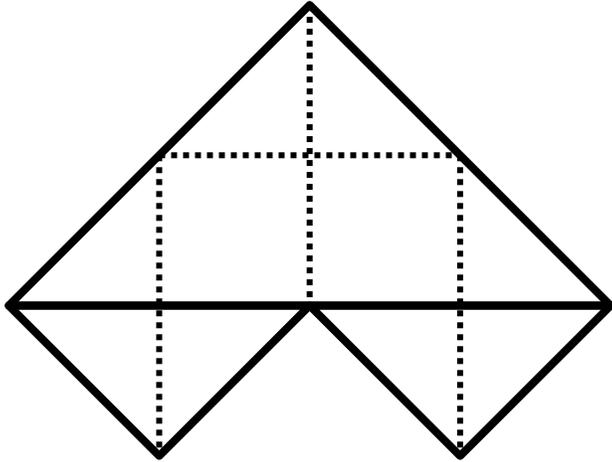
Un assemblage de deux pièces différentes peut être utilisé.



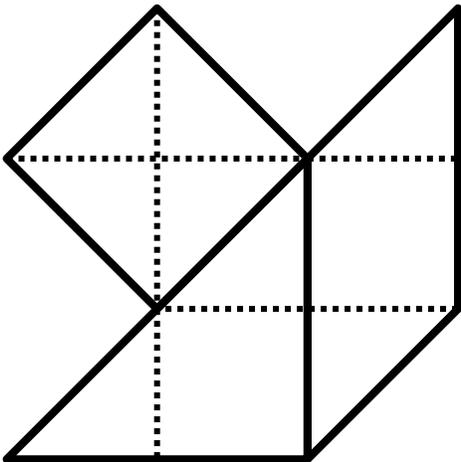
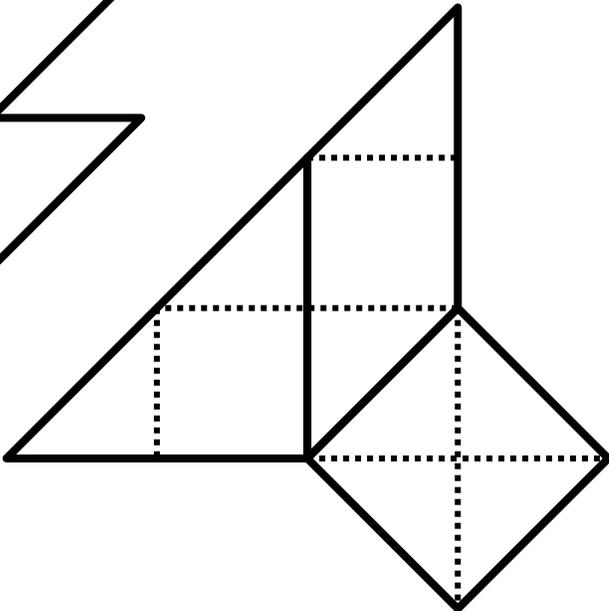
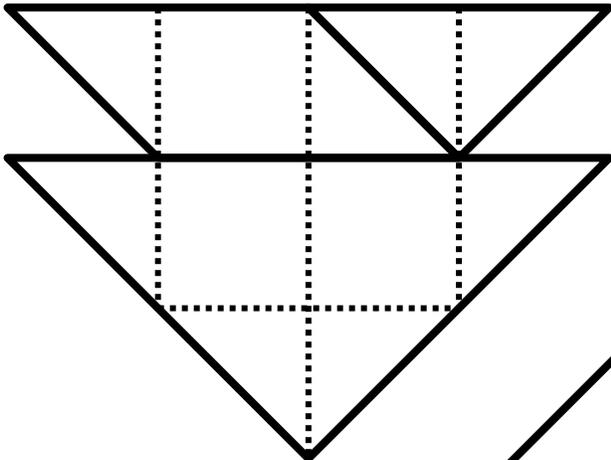
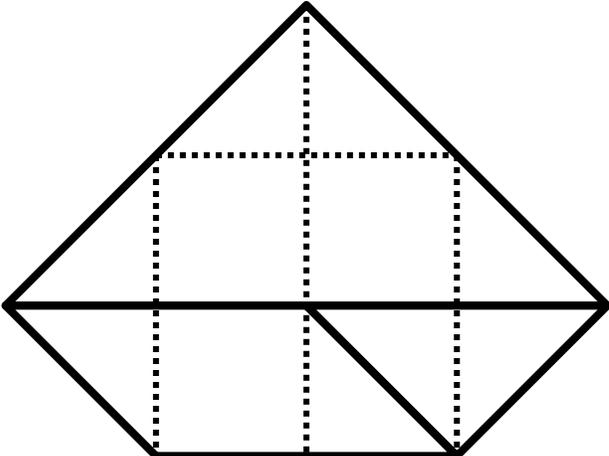
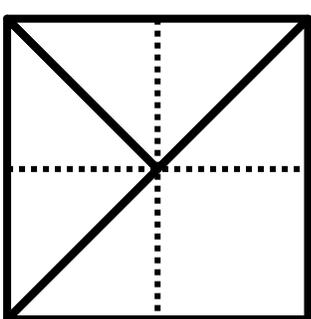
Recherche d'assemblages de trois pièces pour obtenir un polygone admettant un axe de symétrie.

Le puzzle comporte des pièces identiques qui peuvent être assemblées de façon symétrique de chaque côté d'une pièce symétrique.

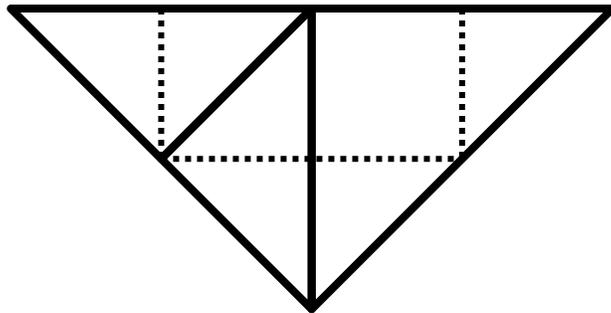
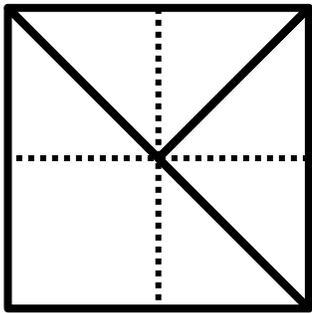
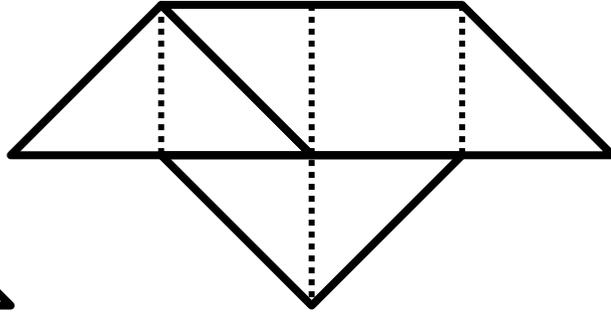
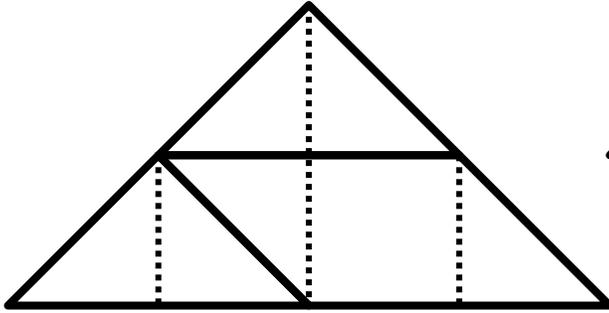




Les assemblages symétriques de deux pièces peuvent être utilisés en utilisant l'axe de symétrie commun à l'assemblage des deux pièces et à la troisième jointe.

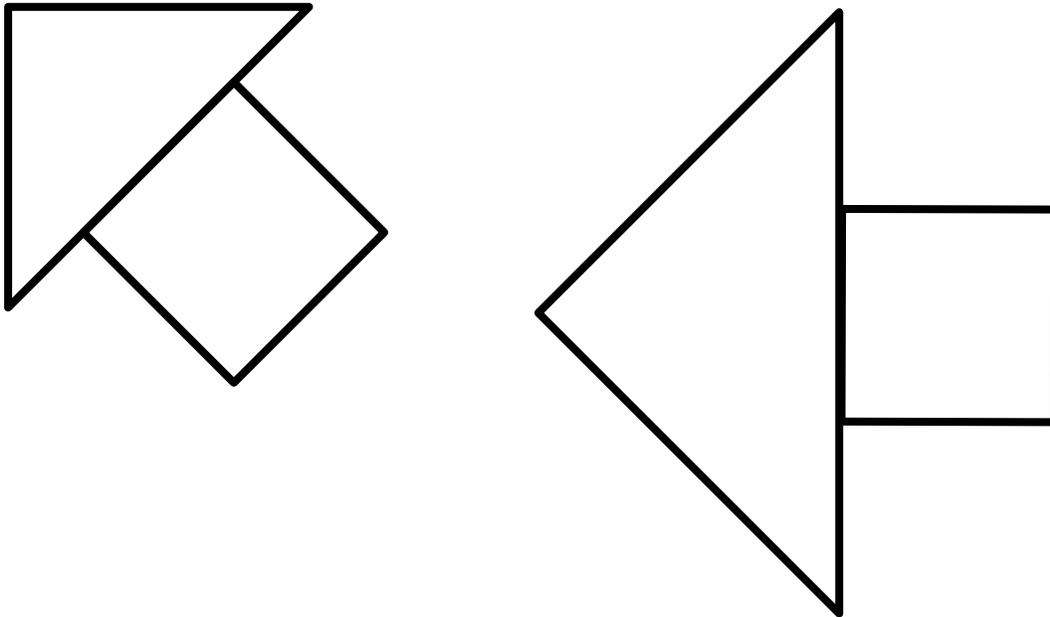


D'autres assemblages peuvent être trouvés.



Ce type de recherche pourra se poursuivre pour des assemblages de quatre pièces.

En utilisant des pièces ne visualisant pas le quadrillage sur lequel elles sont construites, d'autres assemblages symétriques peuvent être trouvés : voici deux exemples d'assemblage de deux pièces symétriques.



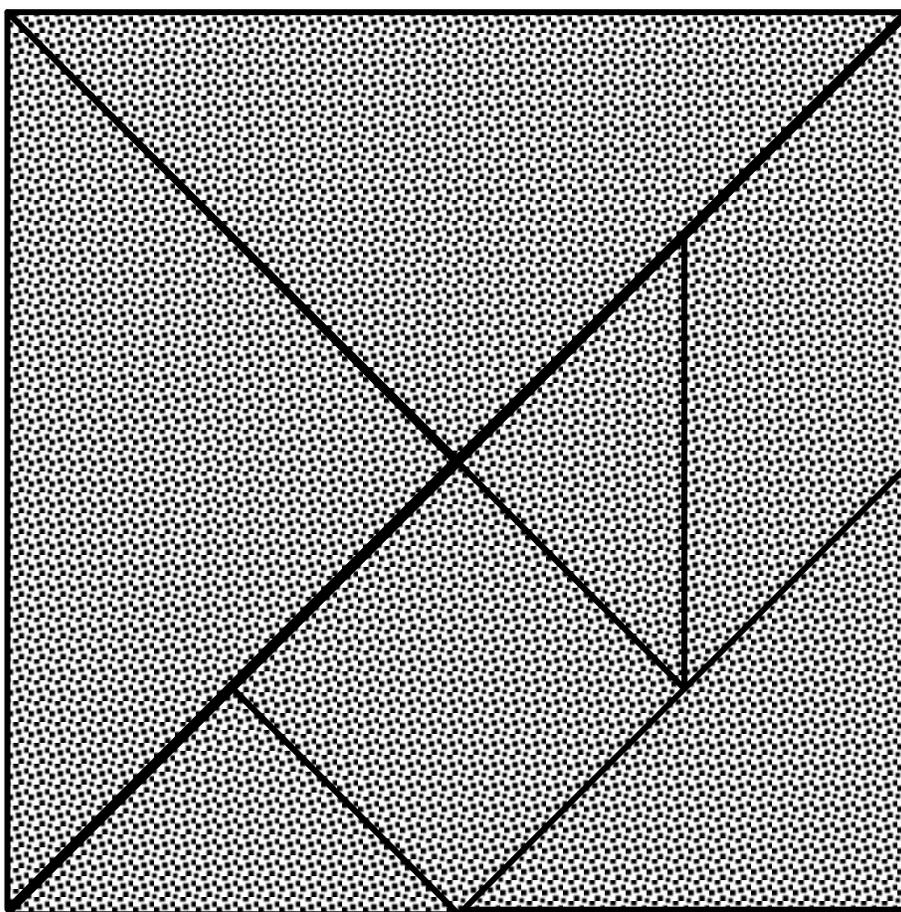
Document préparé fin janvier 2011 pour l'animation d'un atelier lors d'une rencontre entre des étudiants d'étudiants de la Haute Ecole Robert Schuman de Virton avec des étudiants de Master1 à l'IUFM de Lorraine site de Metz.

LE TANGRAM

Silhouettes créées le 28 janvier 2011 lors d'une rencontre entre des étudiants de la Haute École Robert Schuman de Virton et des étudiants de Master 1 de l'IUFM de Lorraine, site de Metz.

L'objectif était qu'après avoir imaginé des configurations prises en photo puis informatisées, les participant(e)s aient du matériau pour créer ou faire créer un récit scénarisé, illustré, etc.

Les pièces du Tangram



Pour chaque silhouette, trois planches sont proposées :

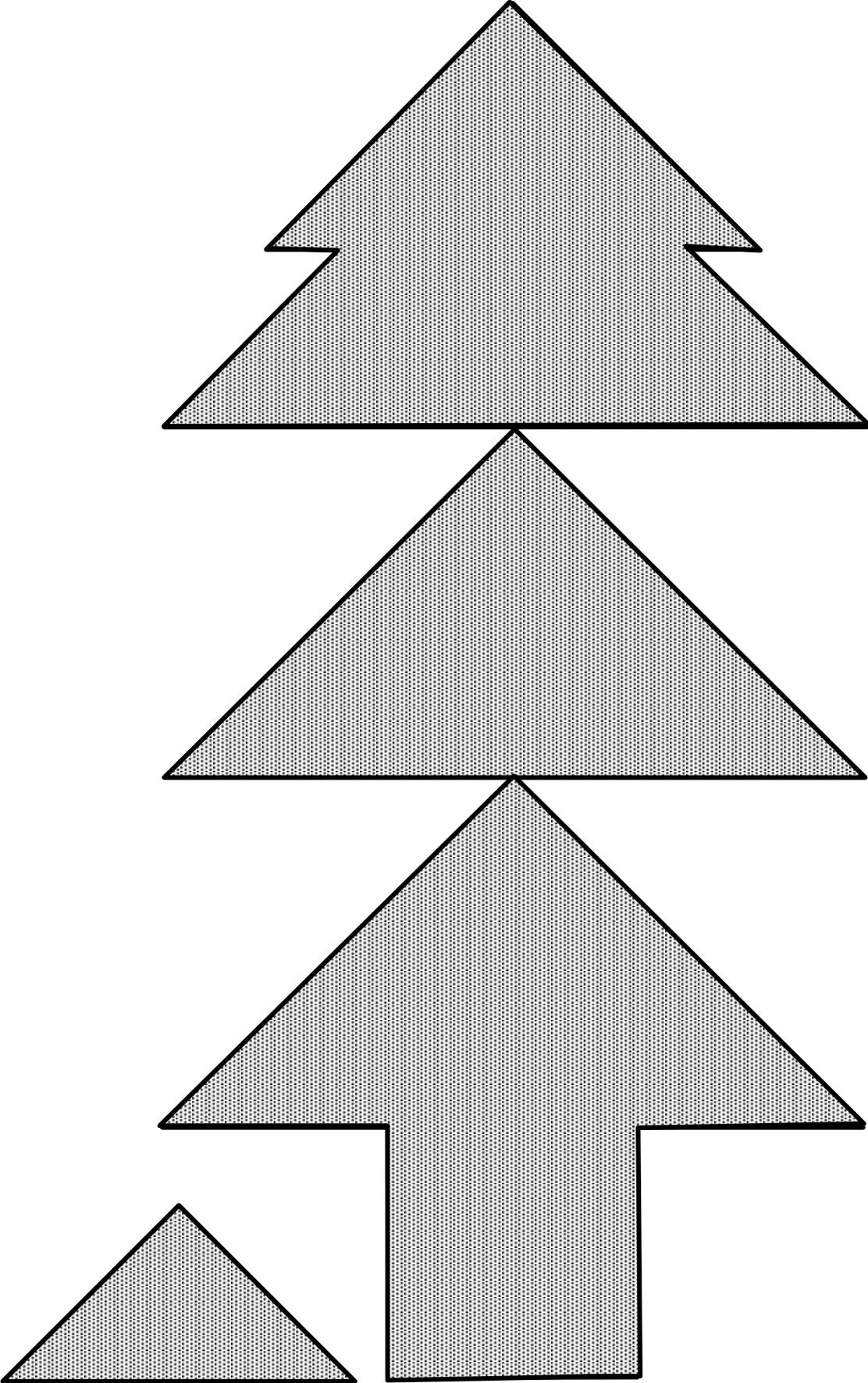
La première présente le pourtour du polygone à recouvrir.

La deuxième présente la solution à recouvrir par les pièces du puzzle. Il reste à prendre garde au placement du parallélogramme, car retourné, il occupe une place différente.

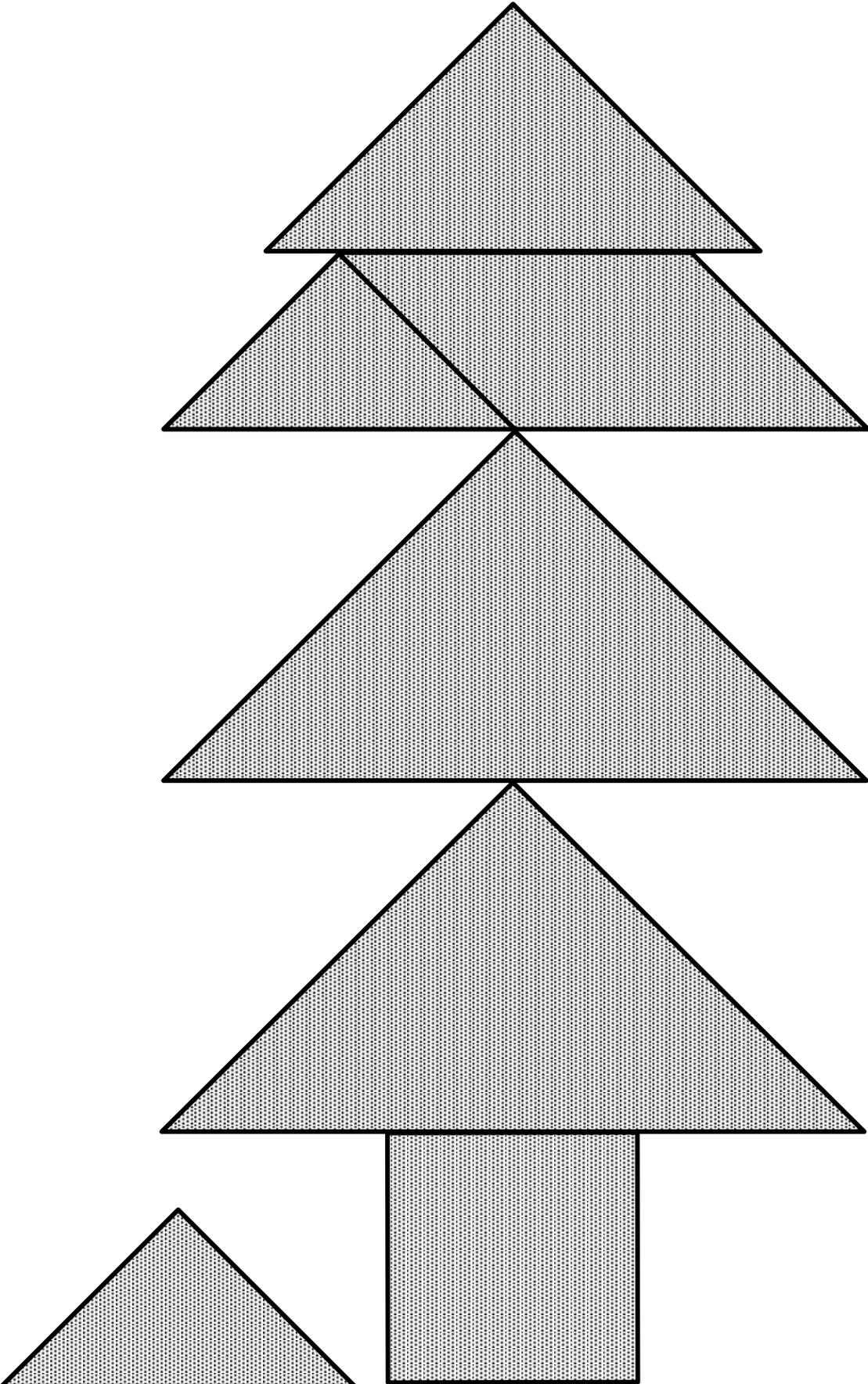
La troisième présente également le pourtour du polygone à recouvrir et un dessin échelle réduite de la solution.

Il reste à établir une progression parmi toutes ces propositions : plus la silhouette est compacte, plus elle est difficile à recouvrir.

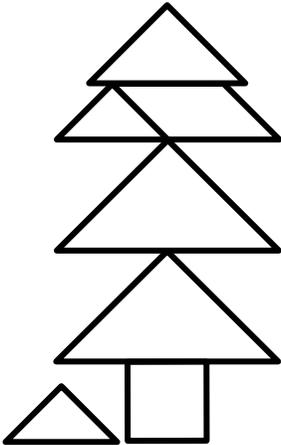
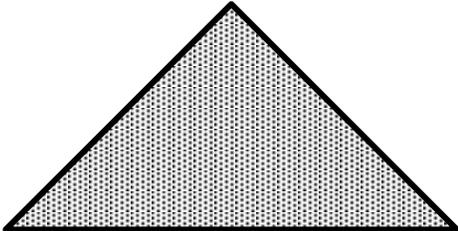
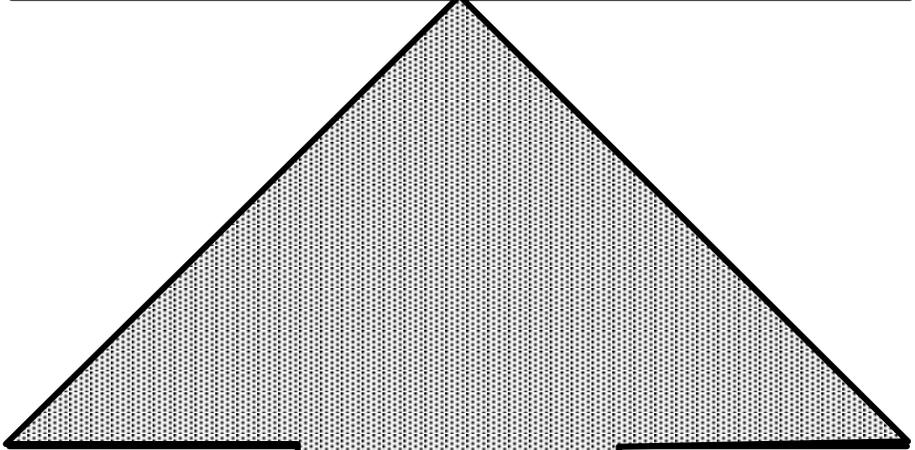
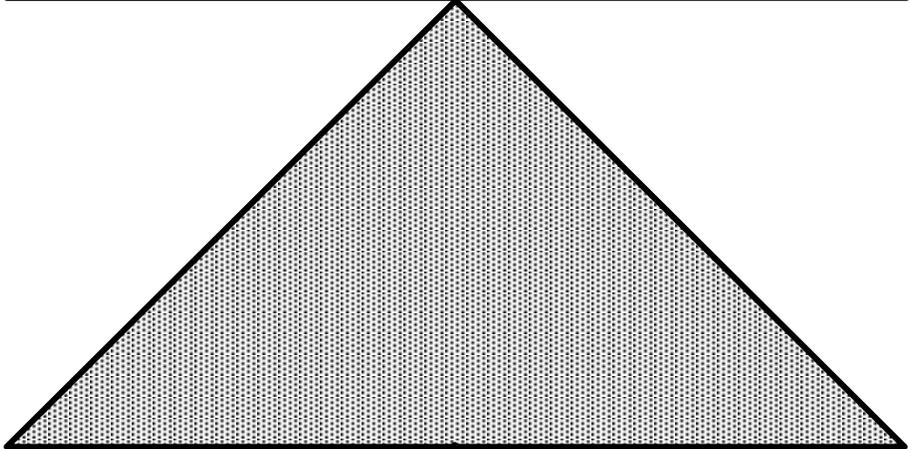
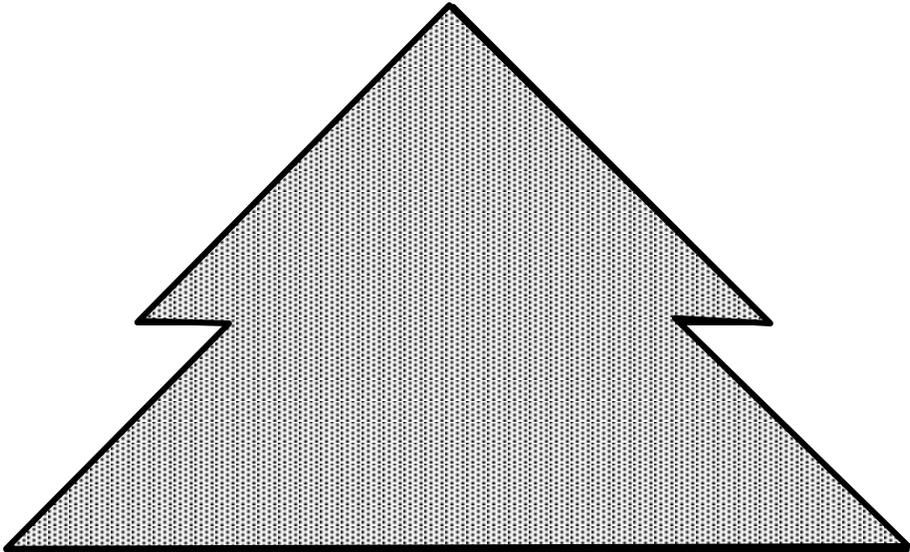
Noël



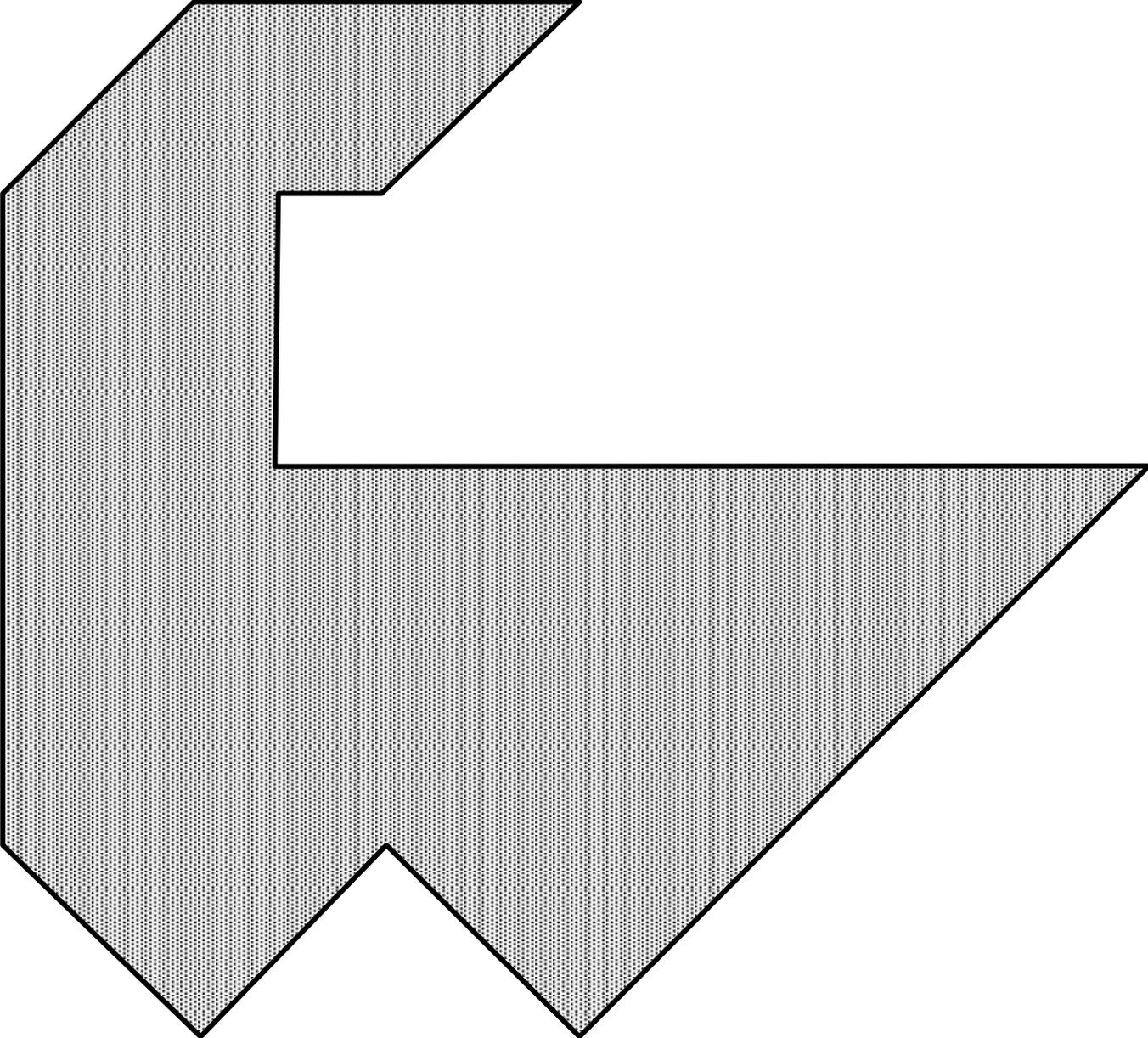
Noël



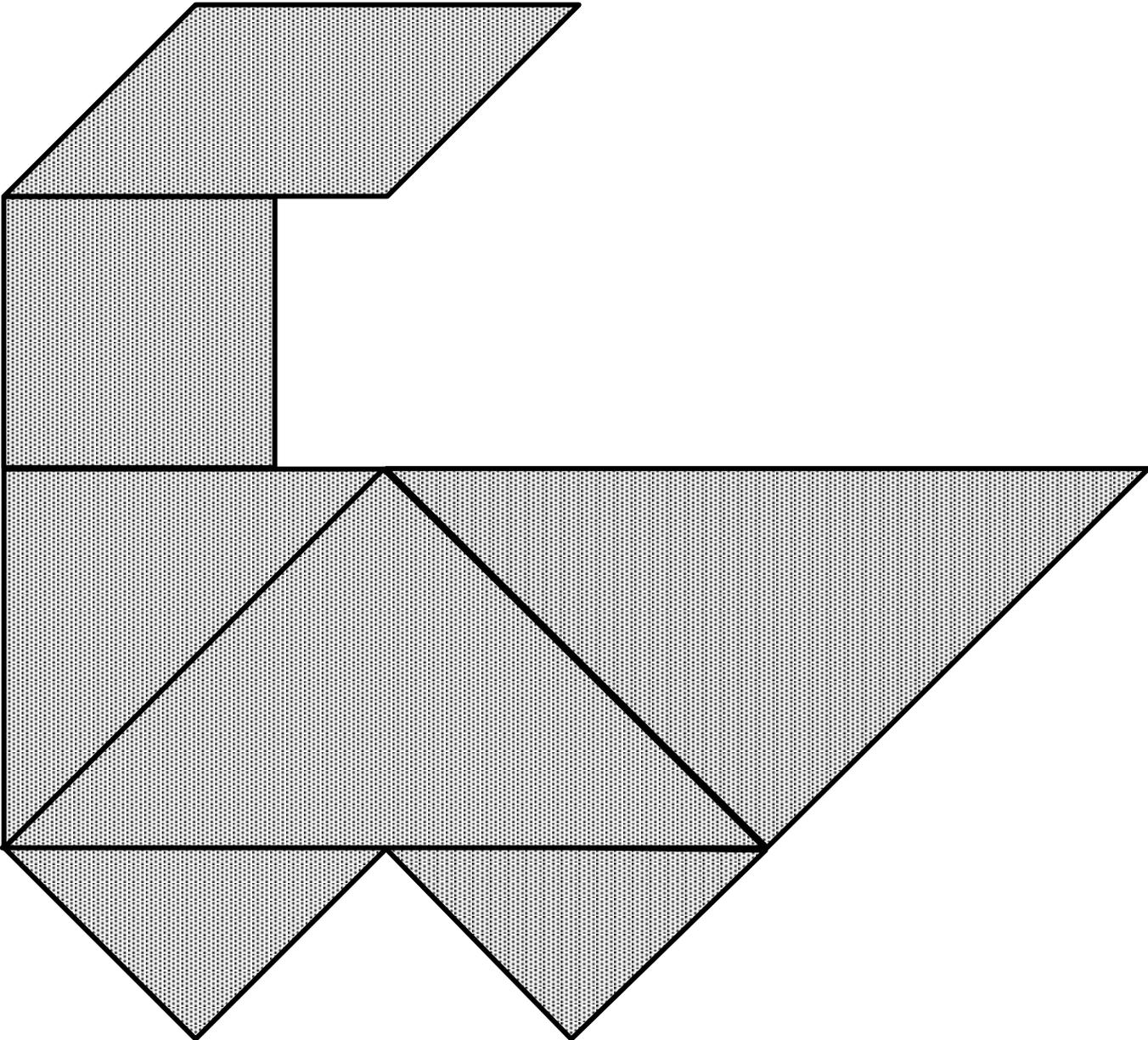
Noël



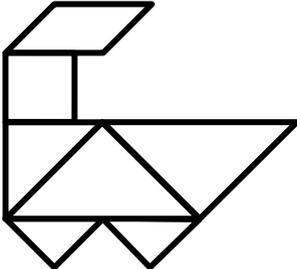
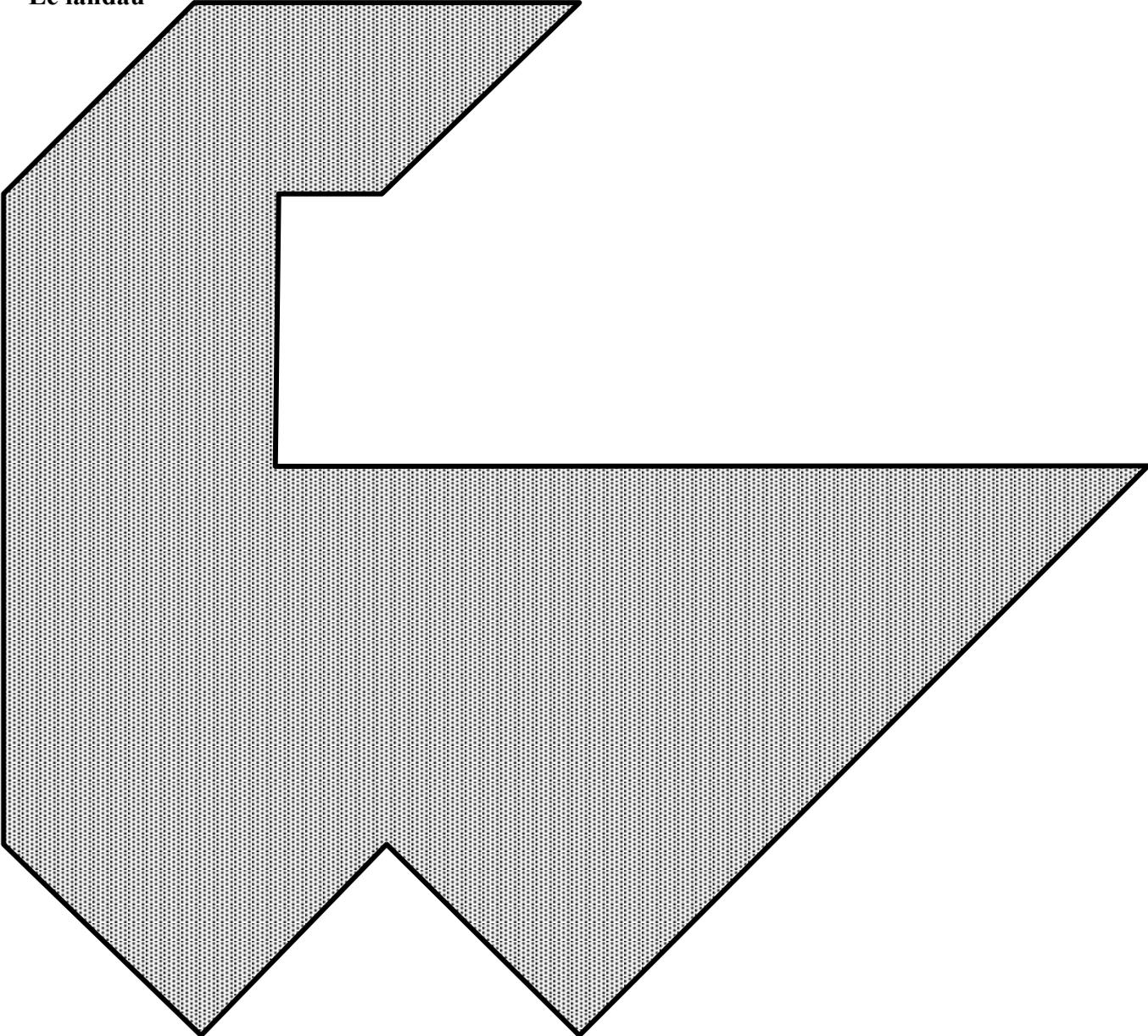
Le landau



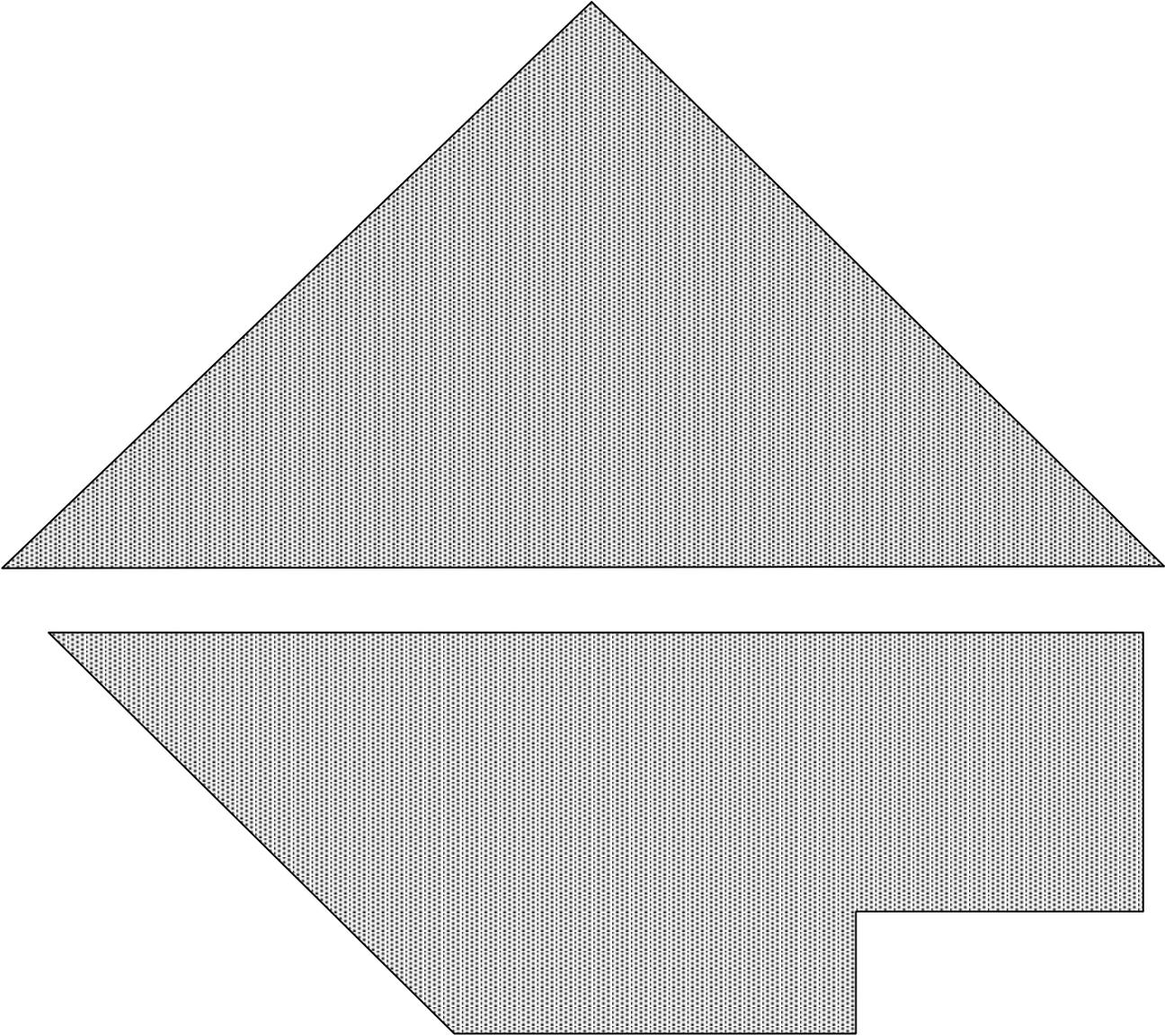
Le landau



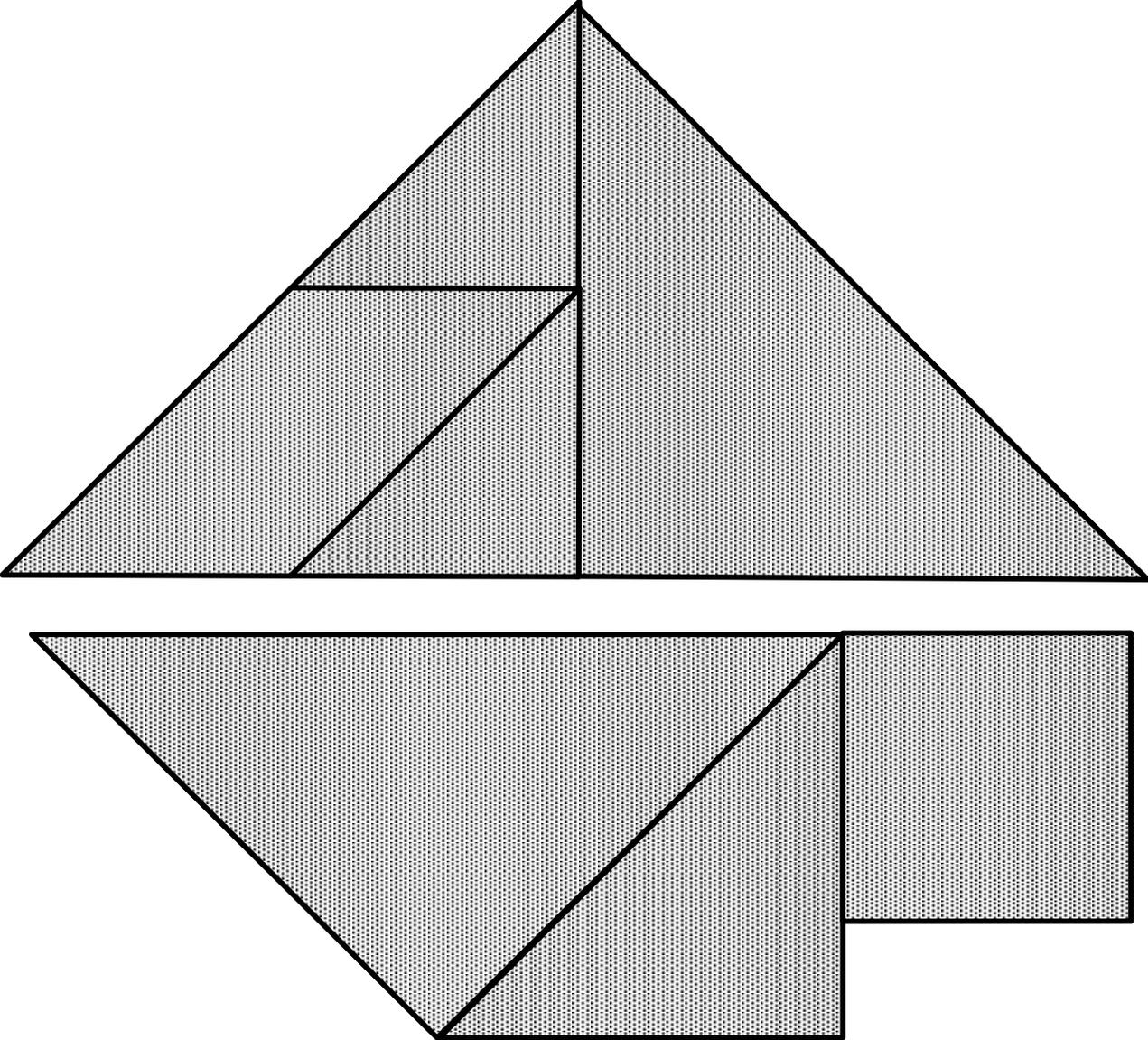
Le landau



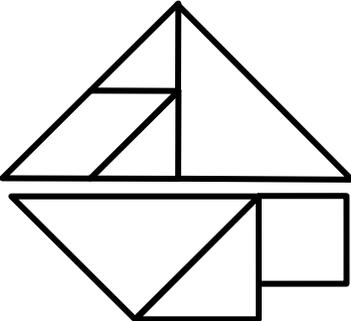
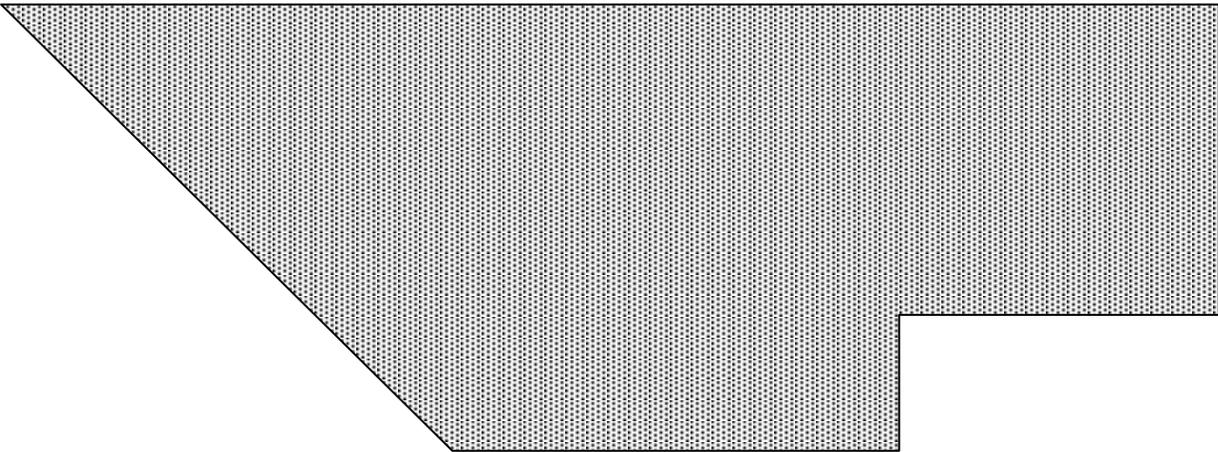
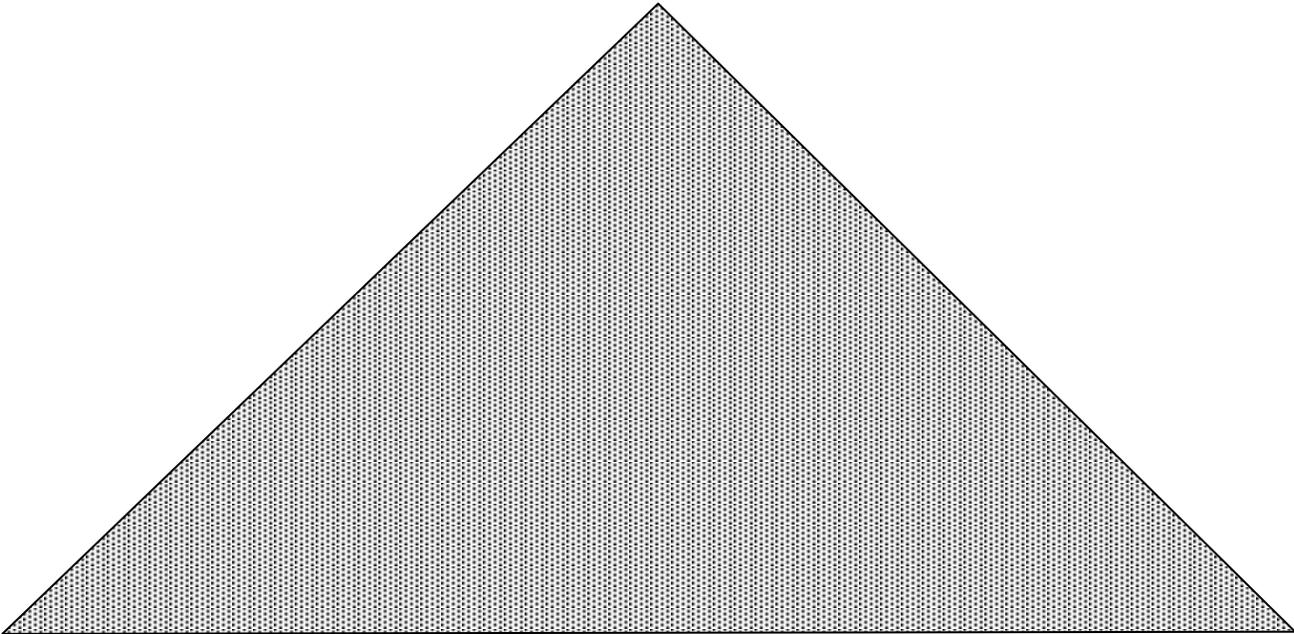
Le bateau



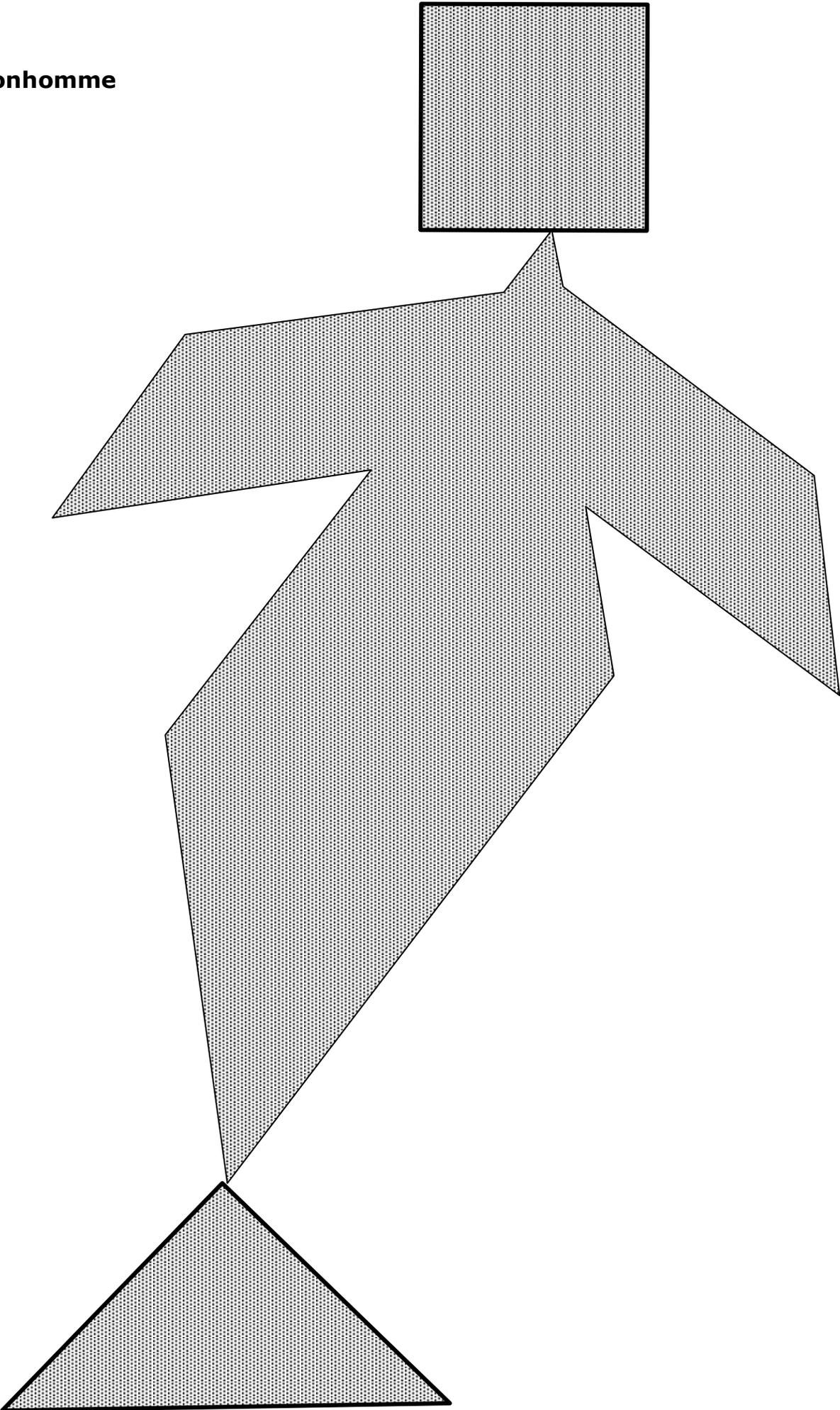
Le bateau



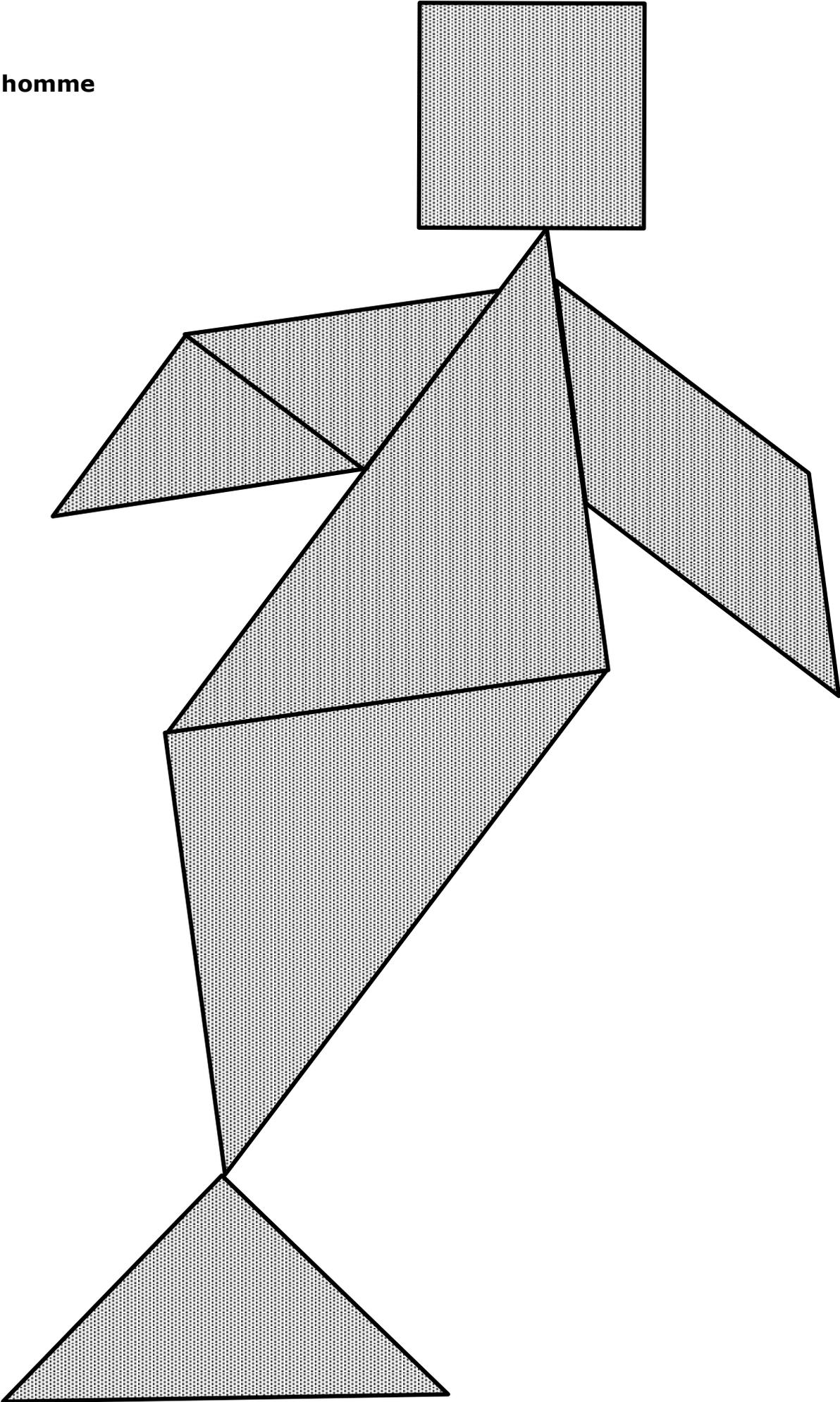
Le bateau



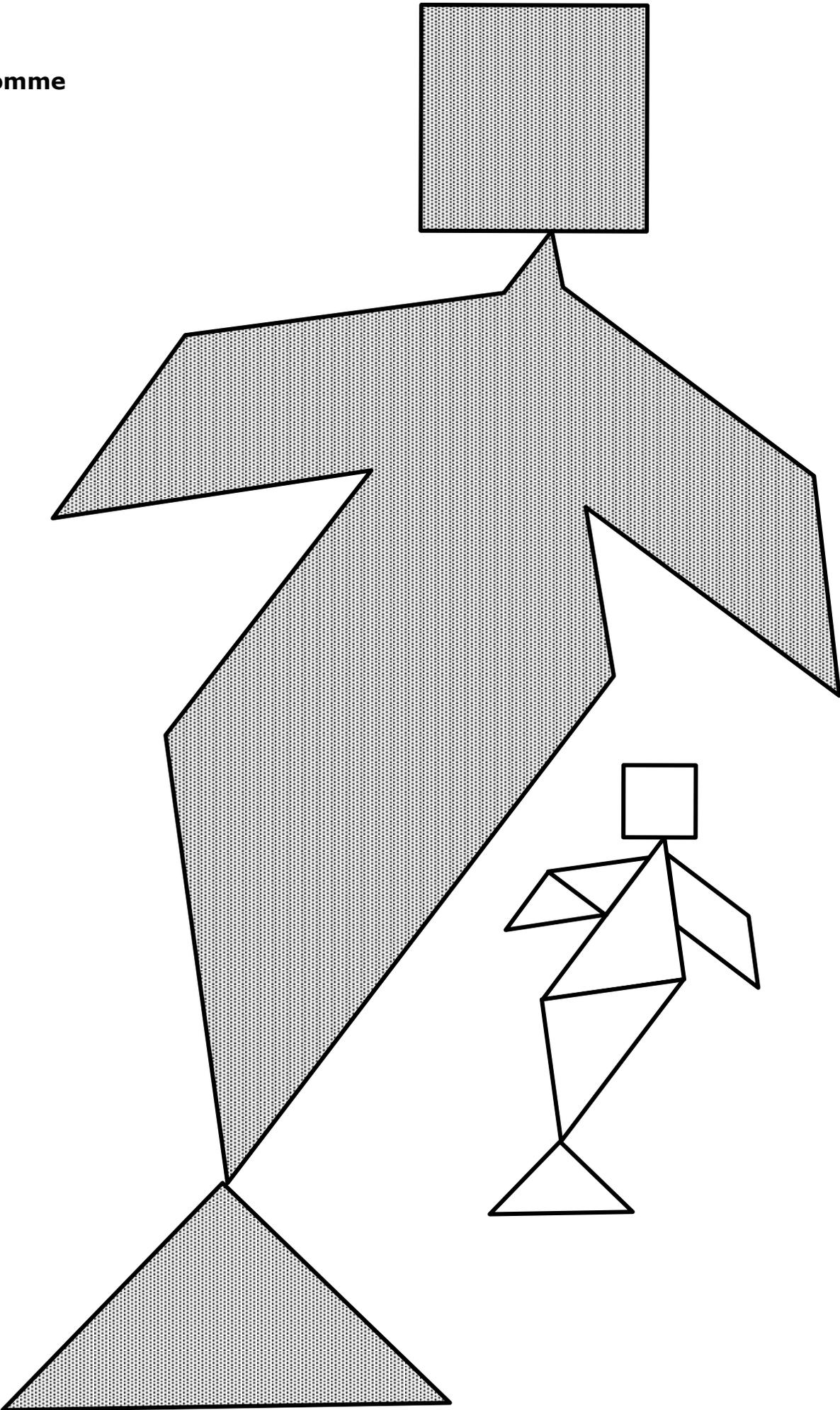
Le bonhomme

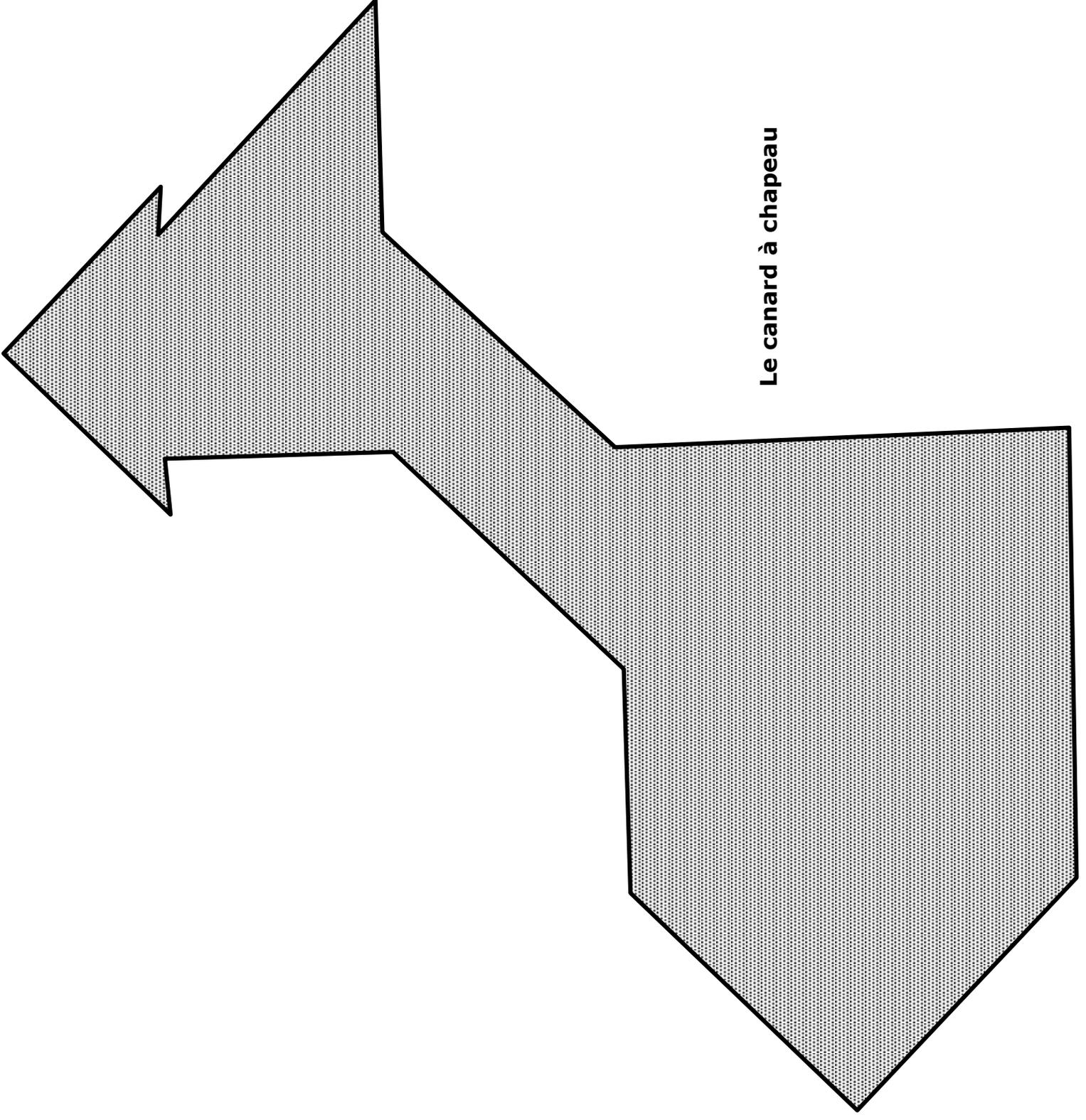


Le bonhomme

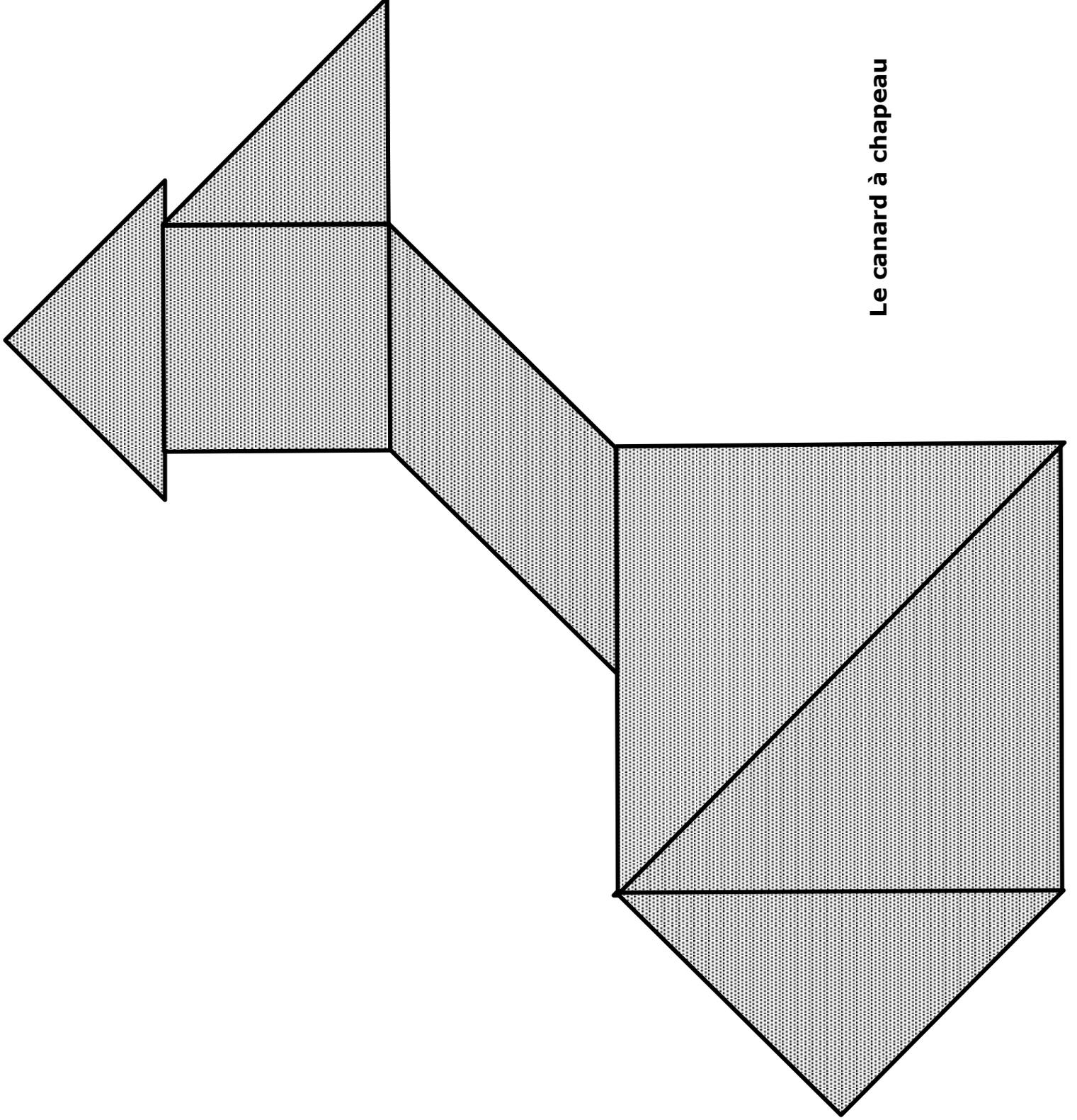


Le bonhomme

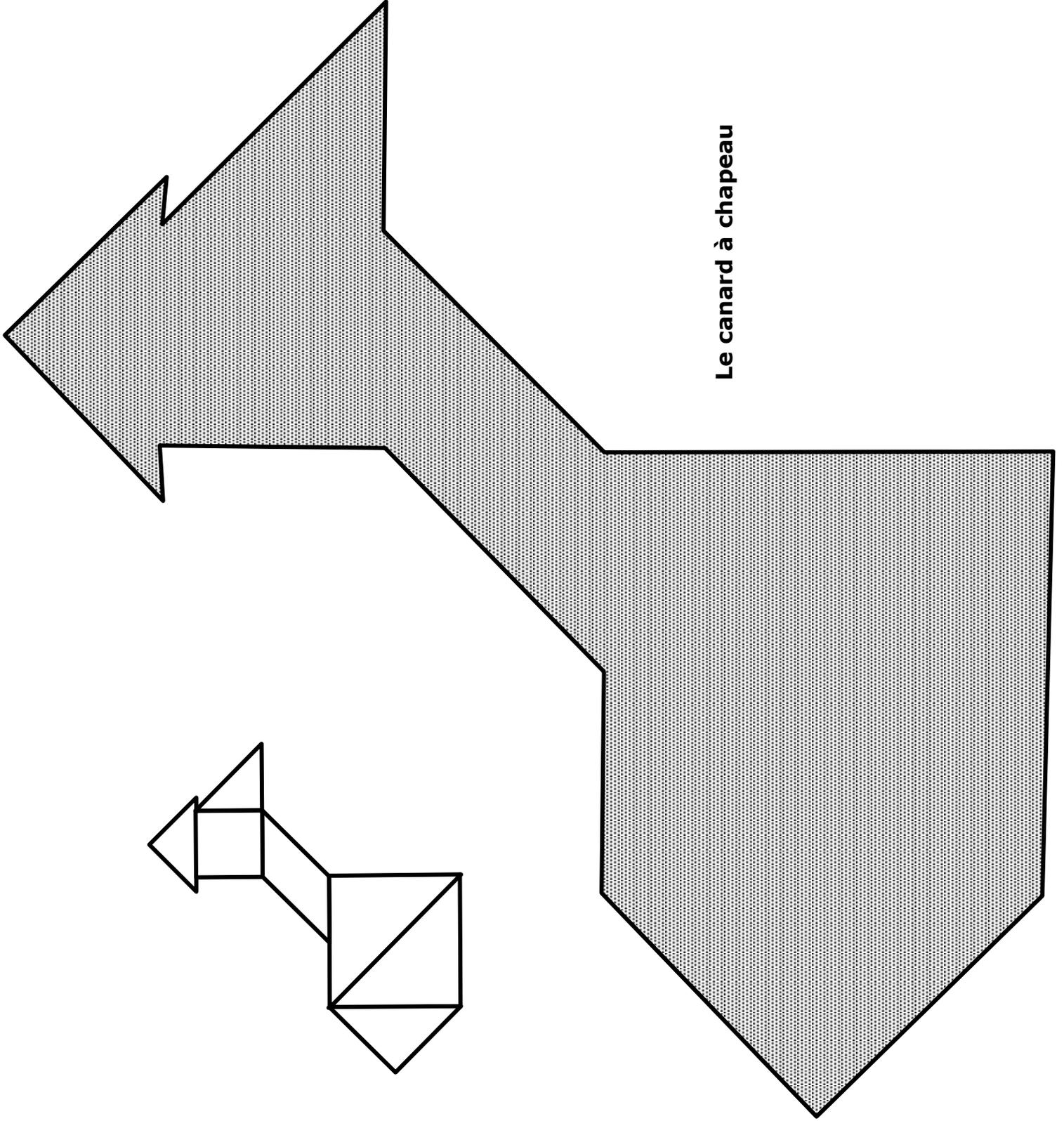




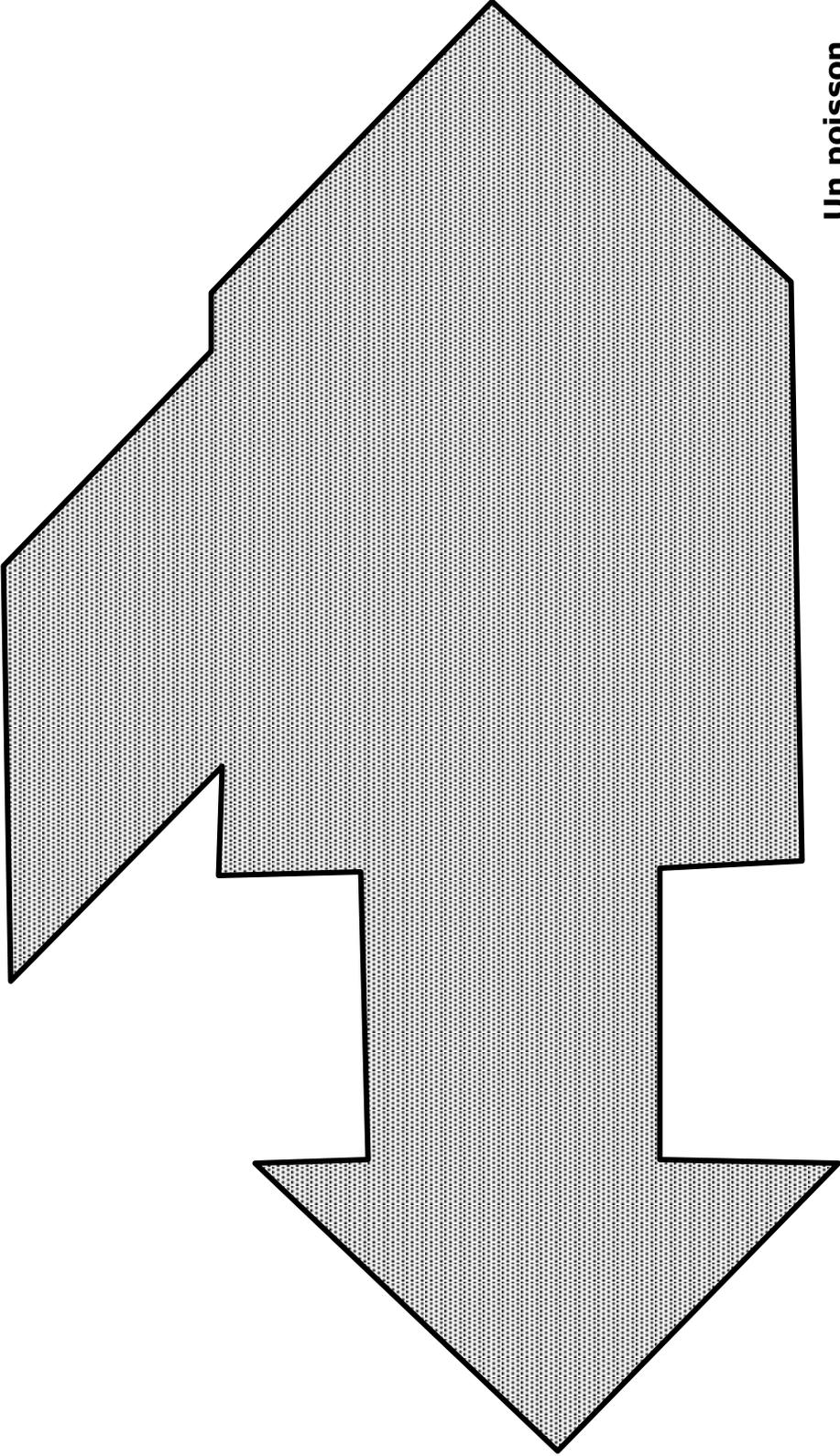
Le canard à chapeau



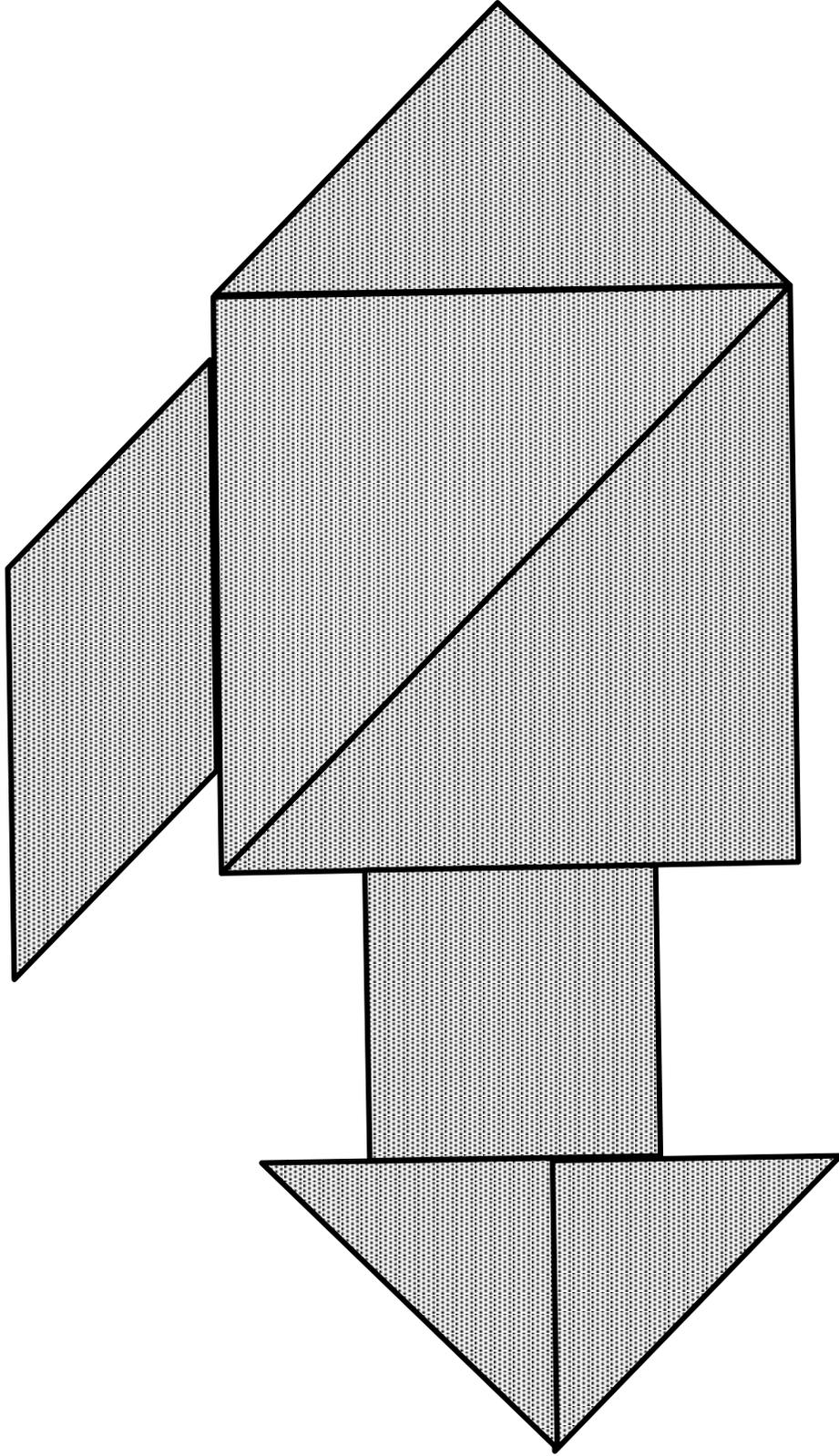
Le canard à chapeau



Le canard à chapeau

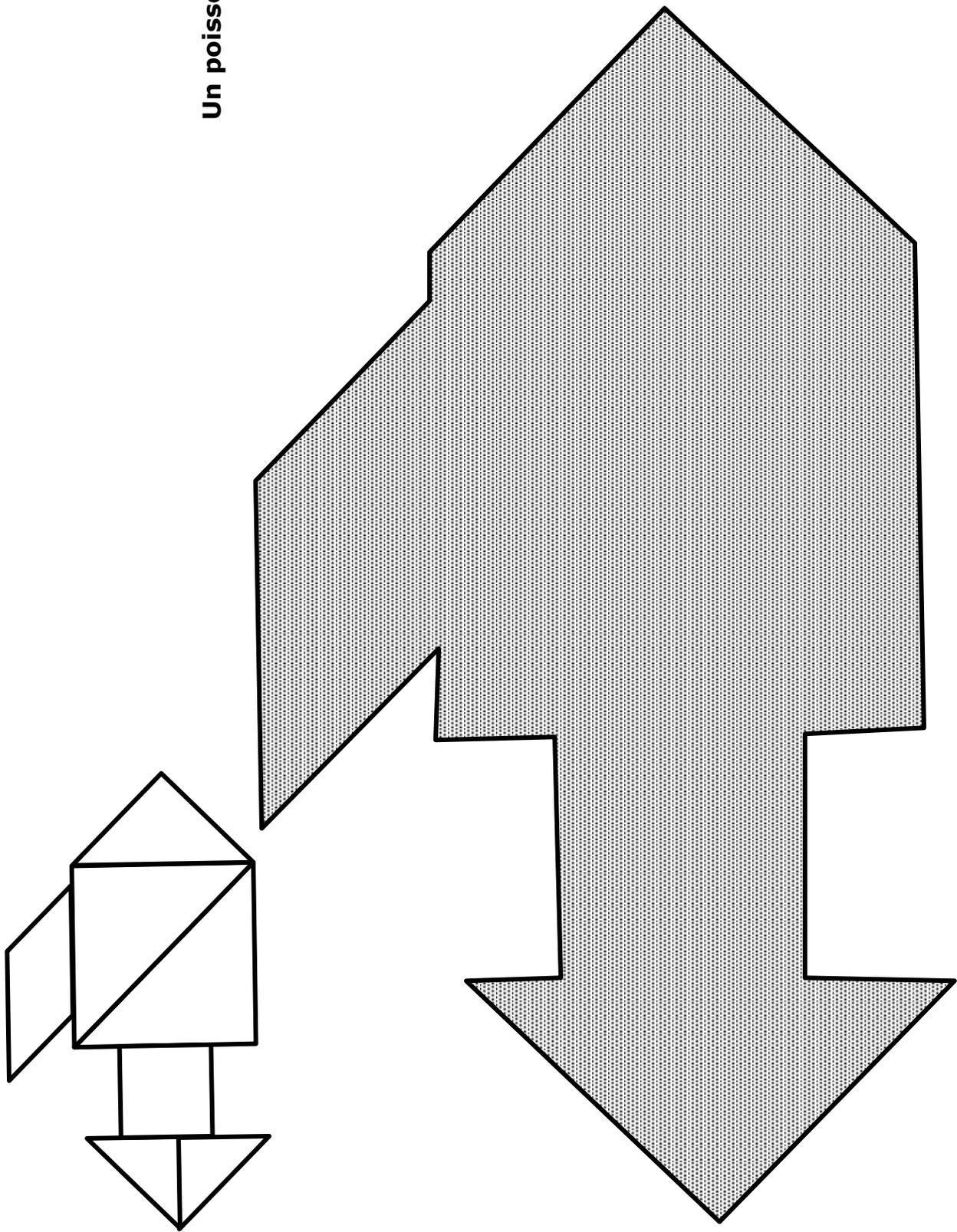


Un poisson

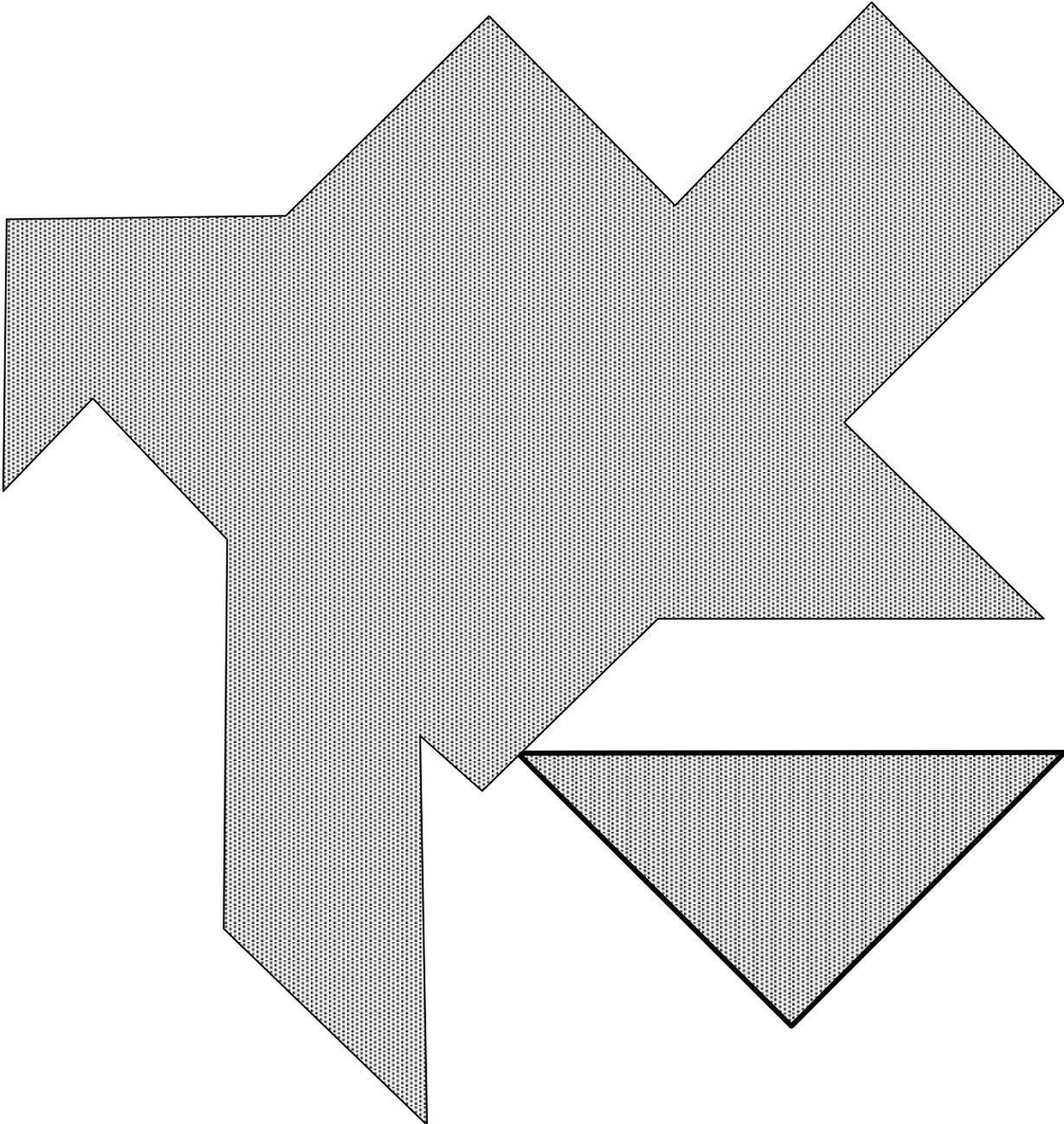


Un poisson

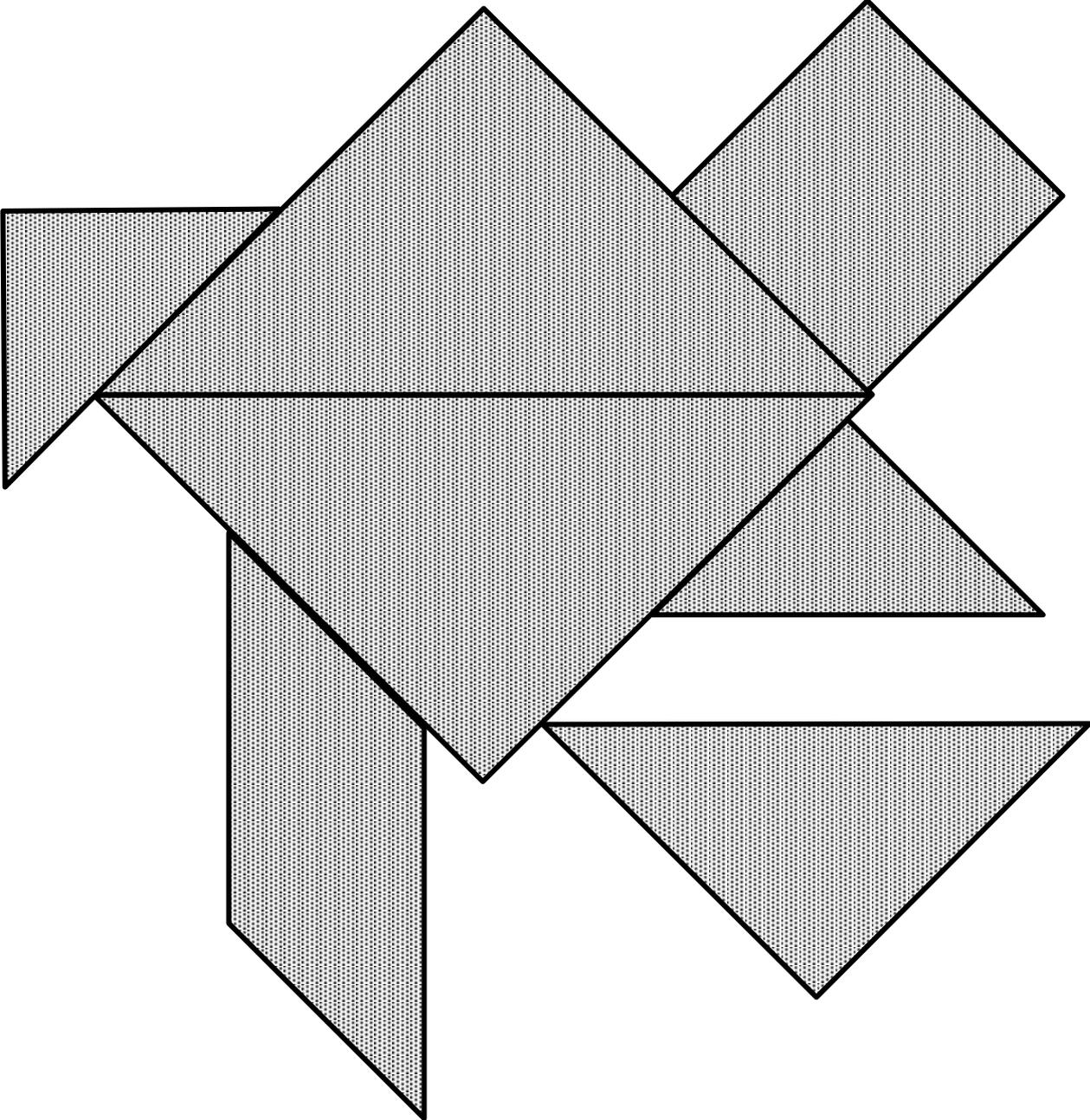
Un poisson



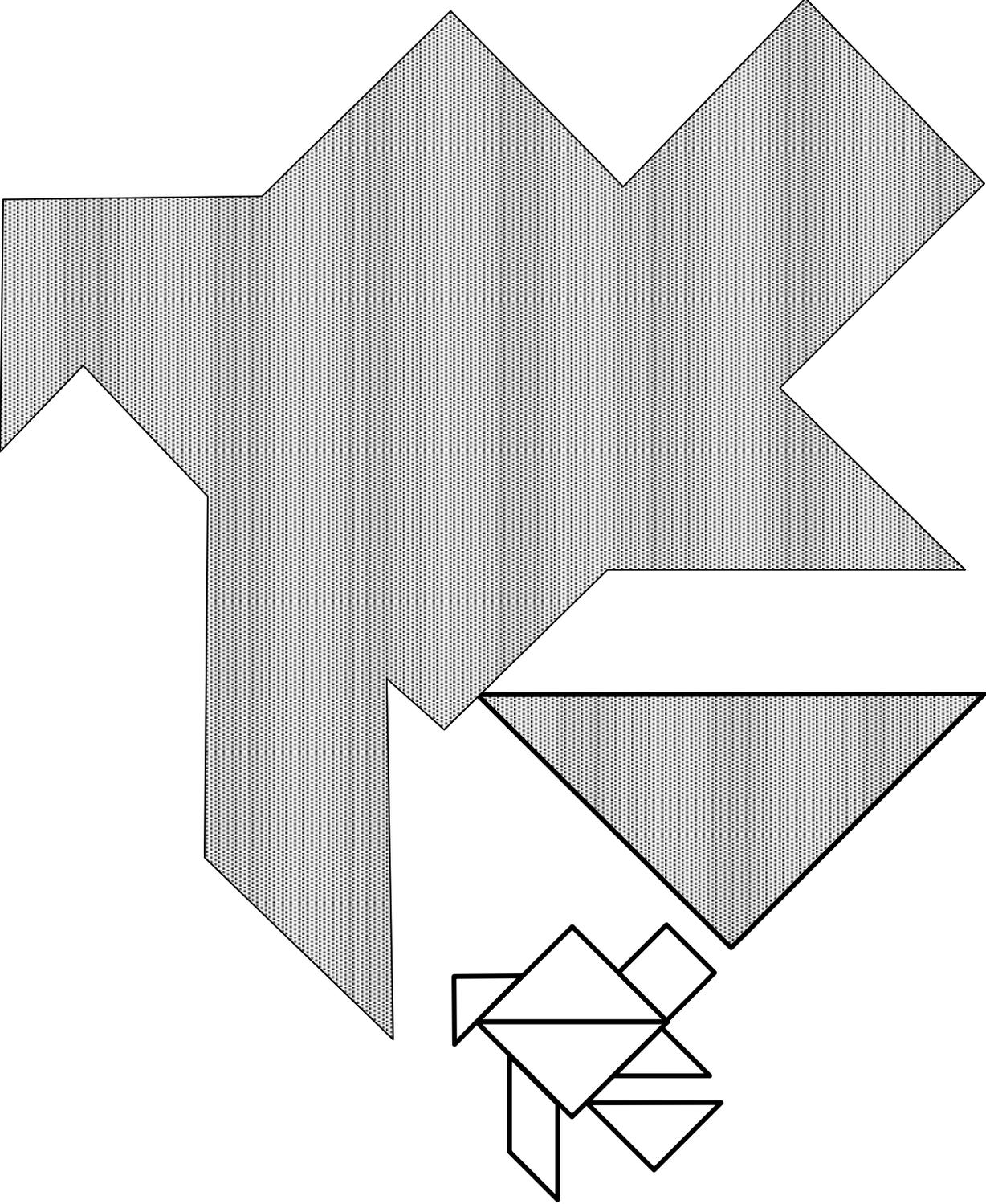
Le danseur espagnol

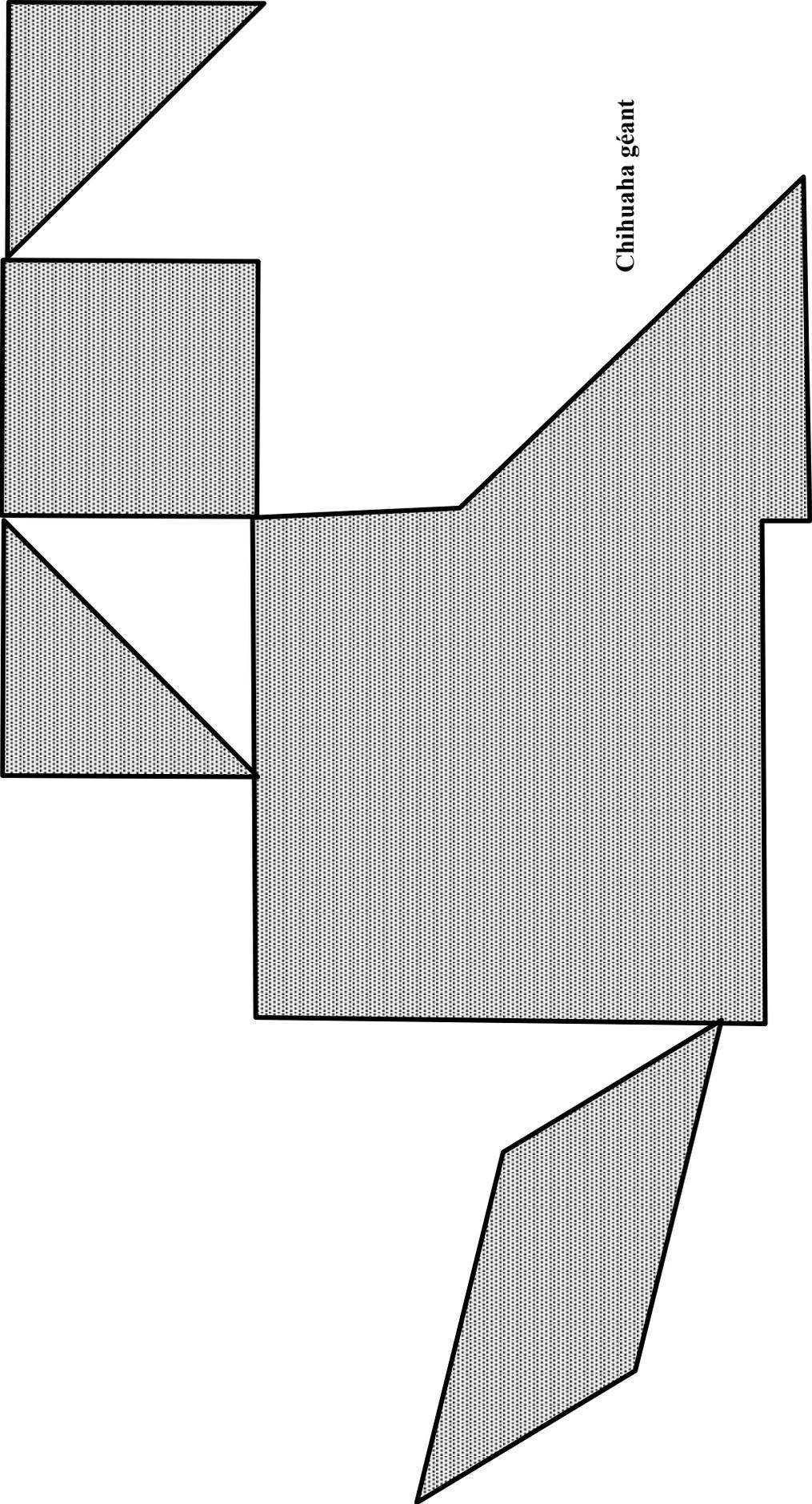


Le danseur espagnol

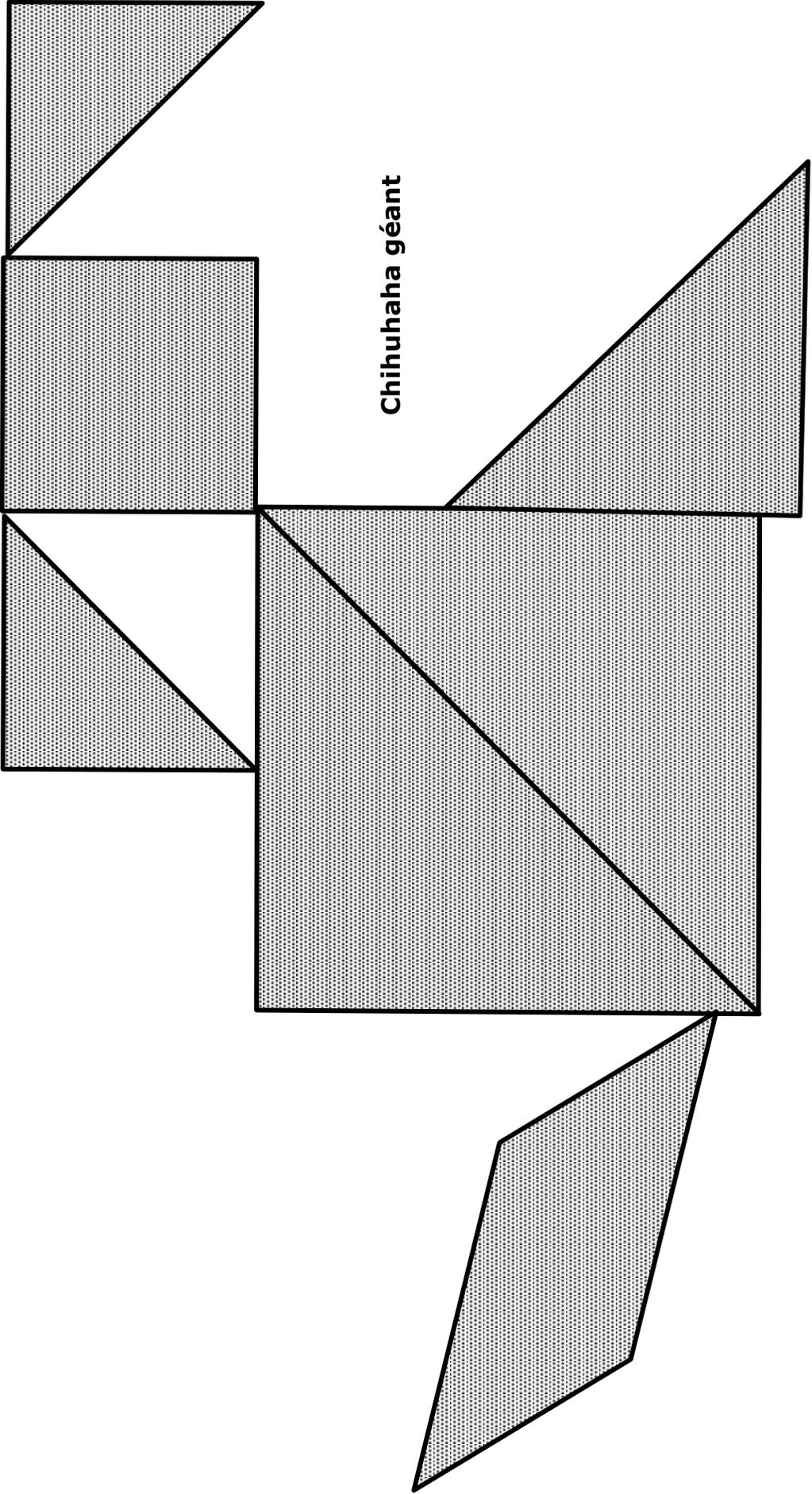


Le danseur espagnol

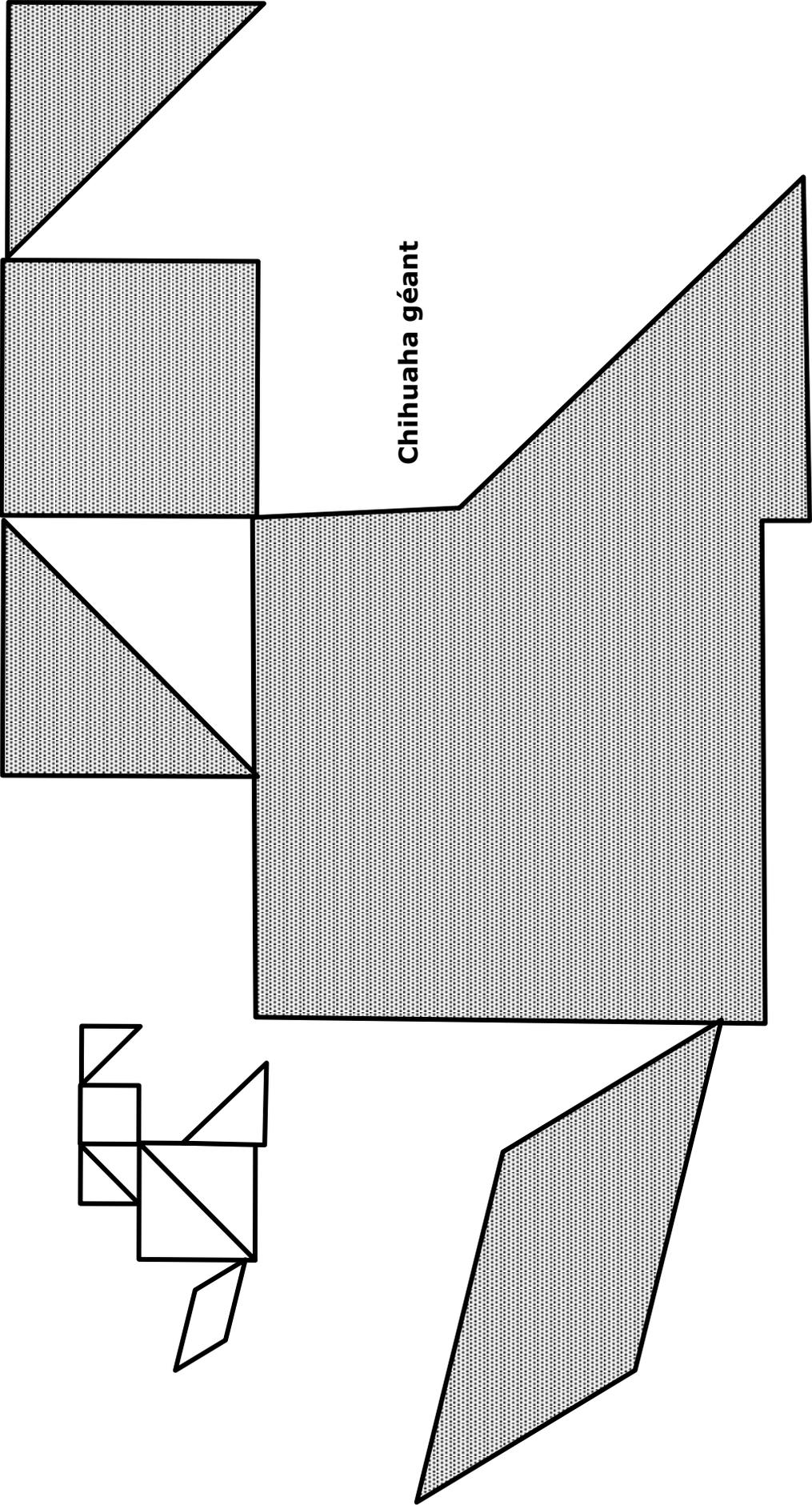




Chihuahua géant

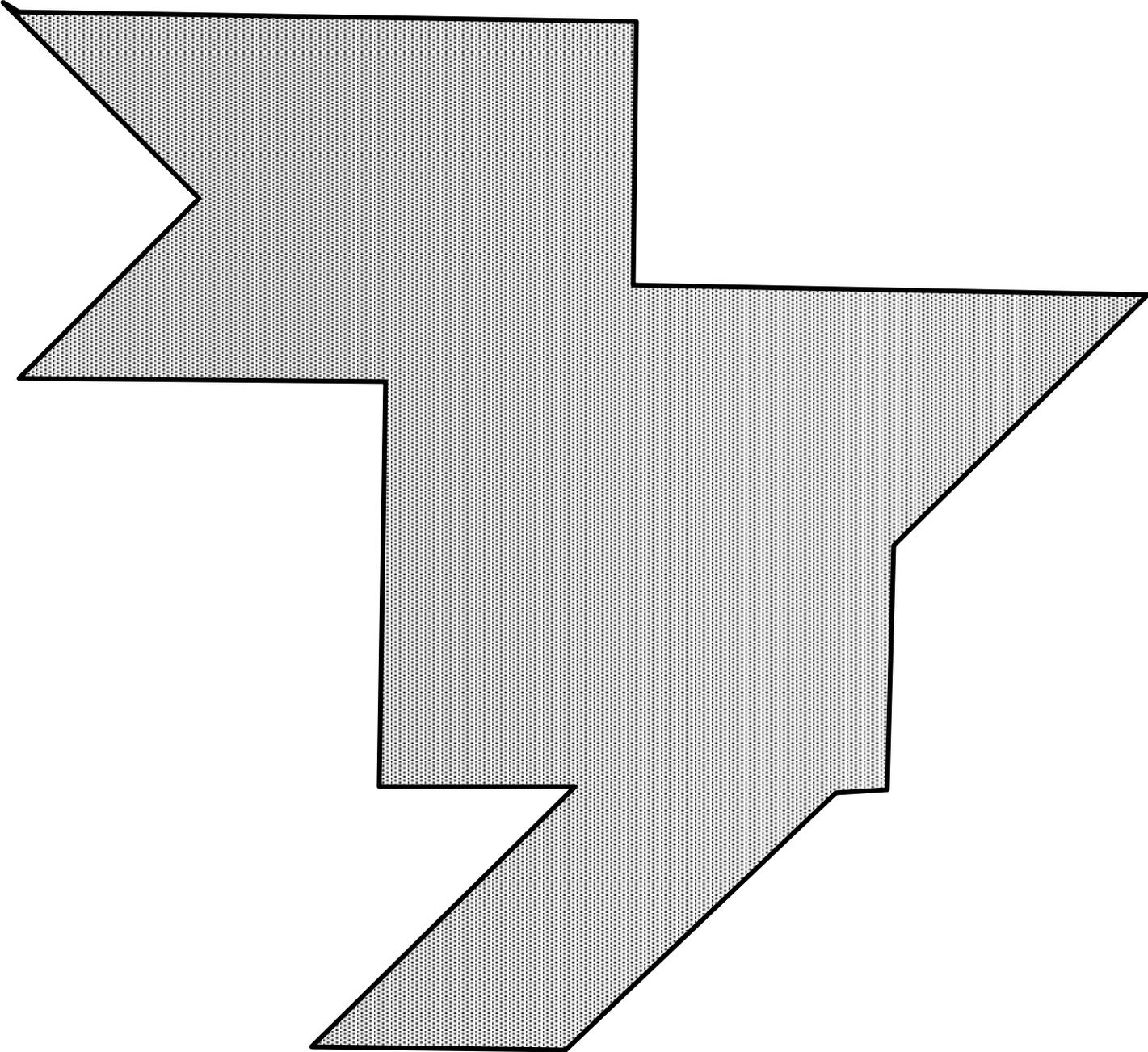


Chihuhaha géant

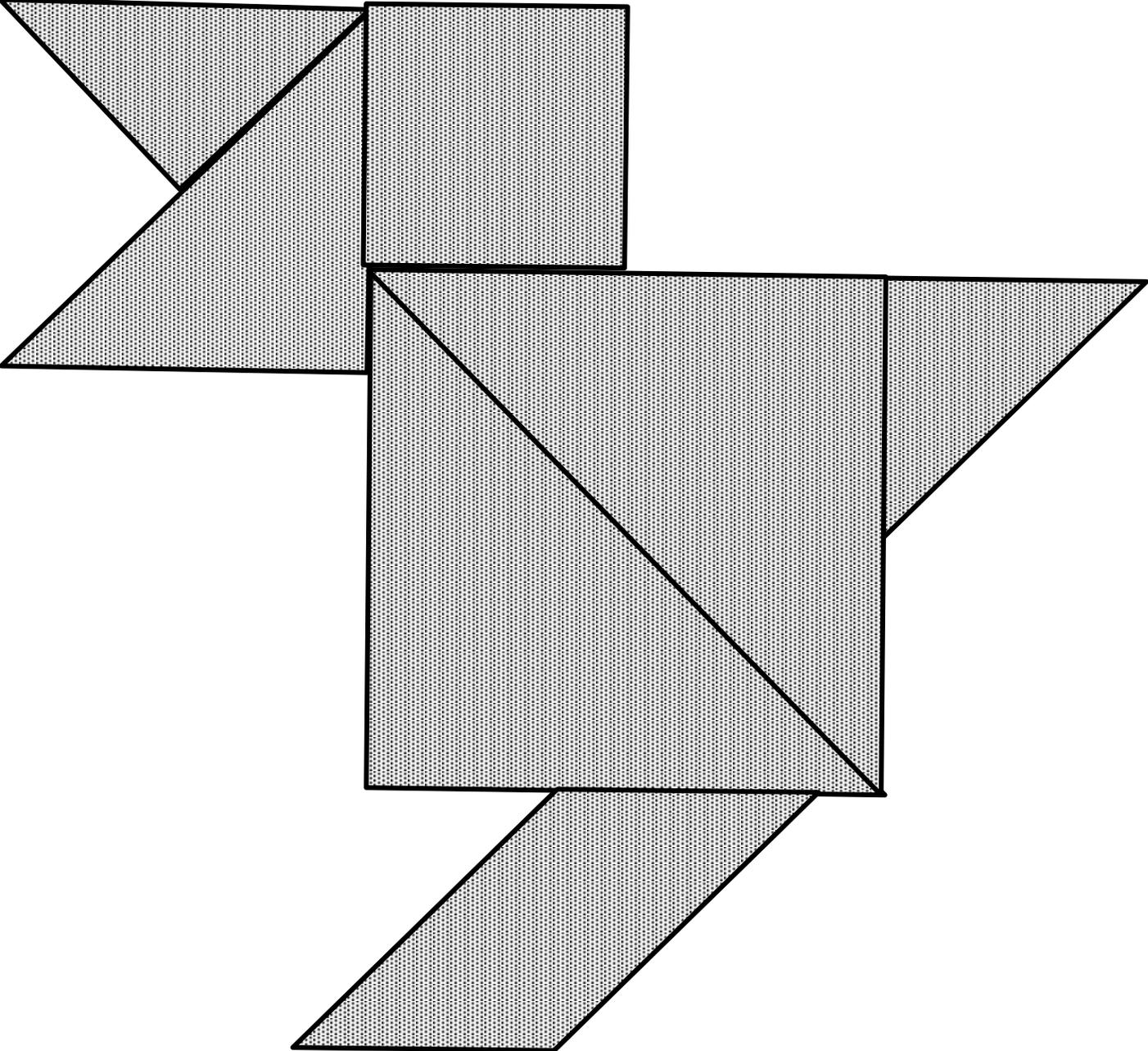


Chihuahua géant

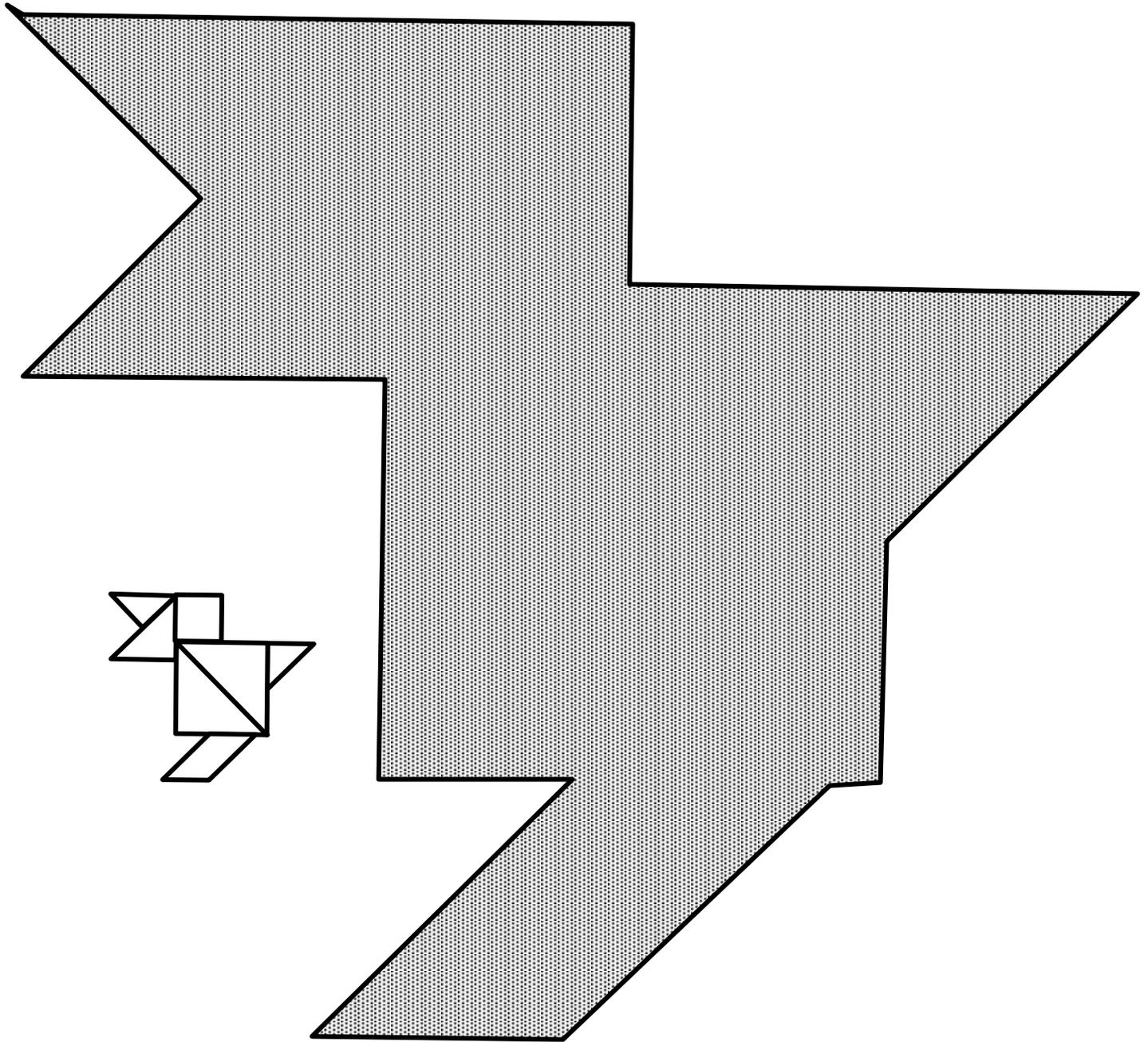
La poule

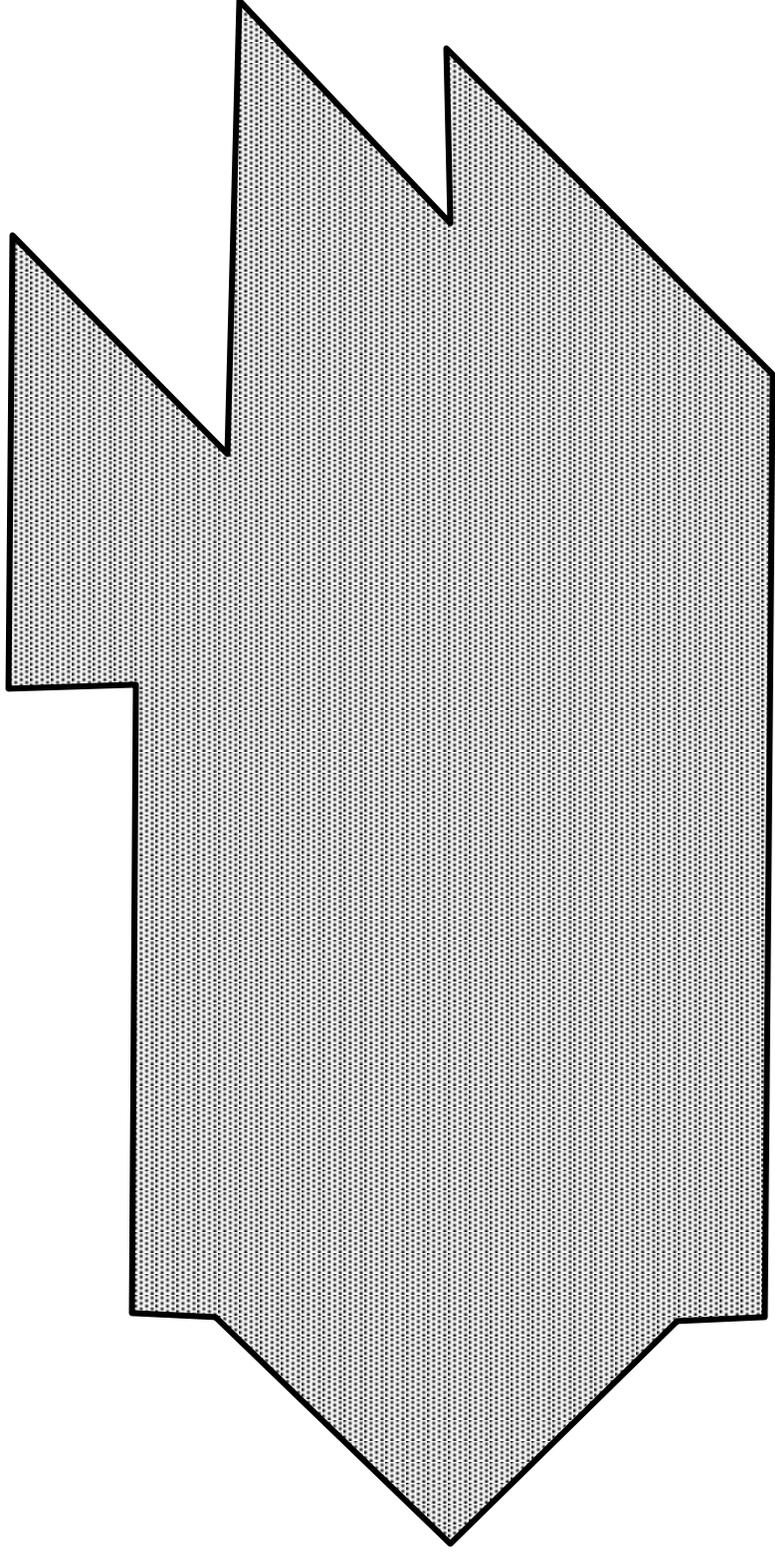


La poule

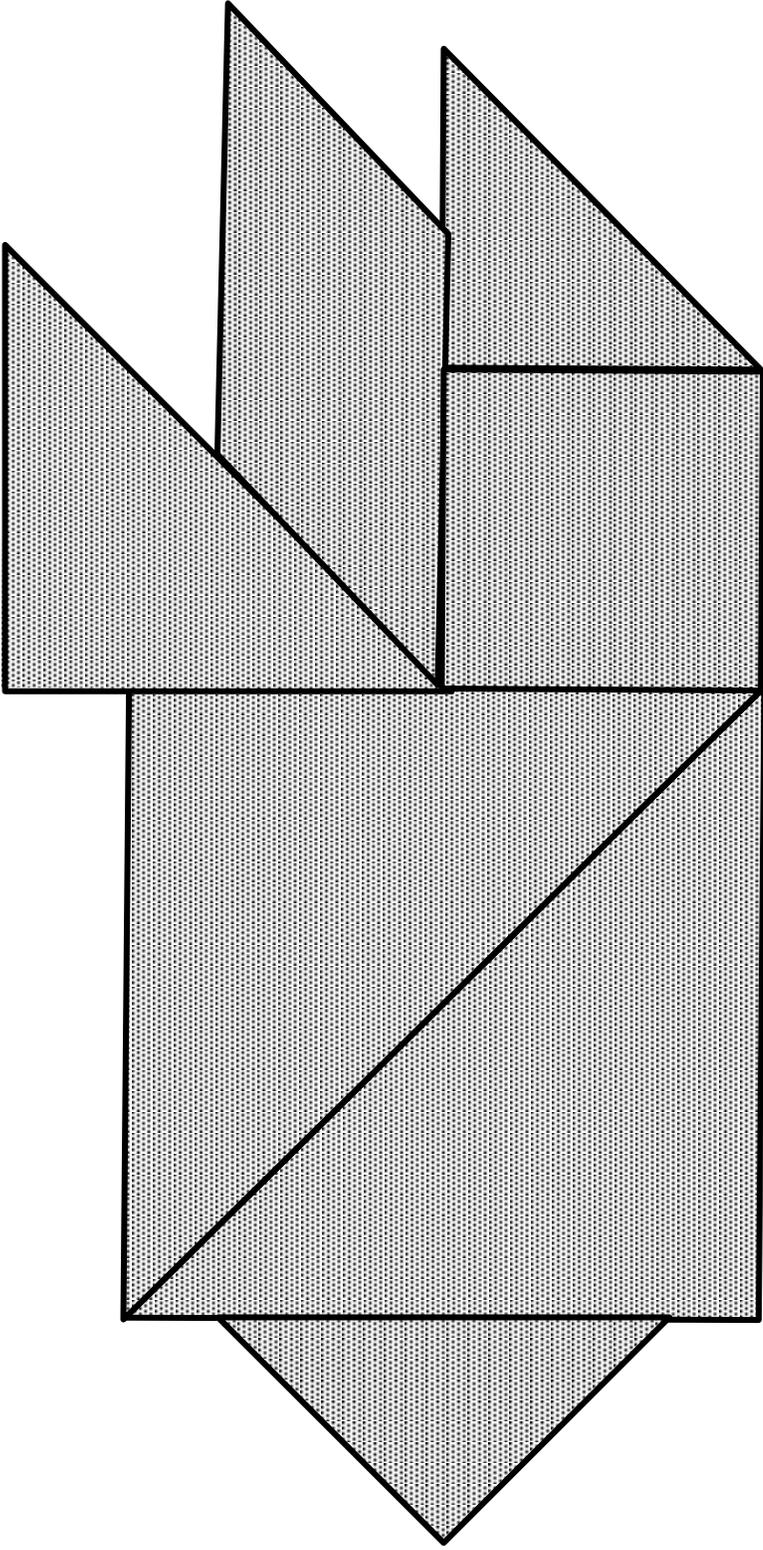


La poule

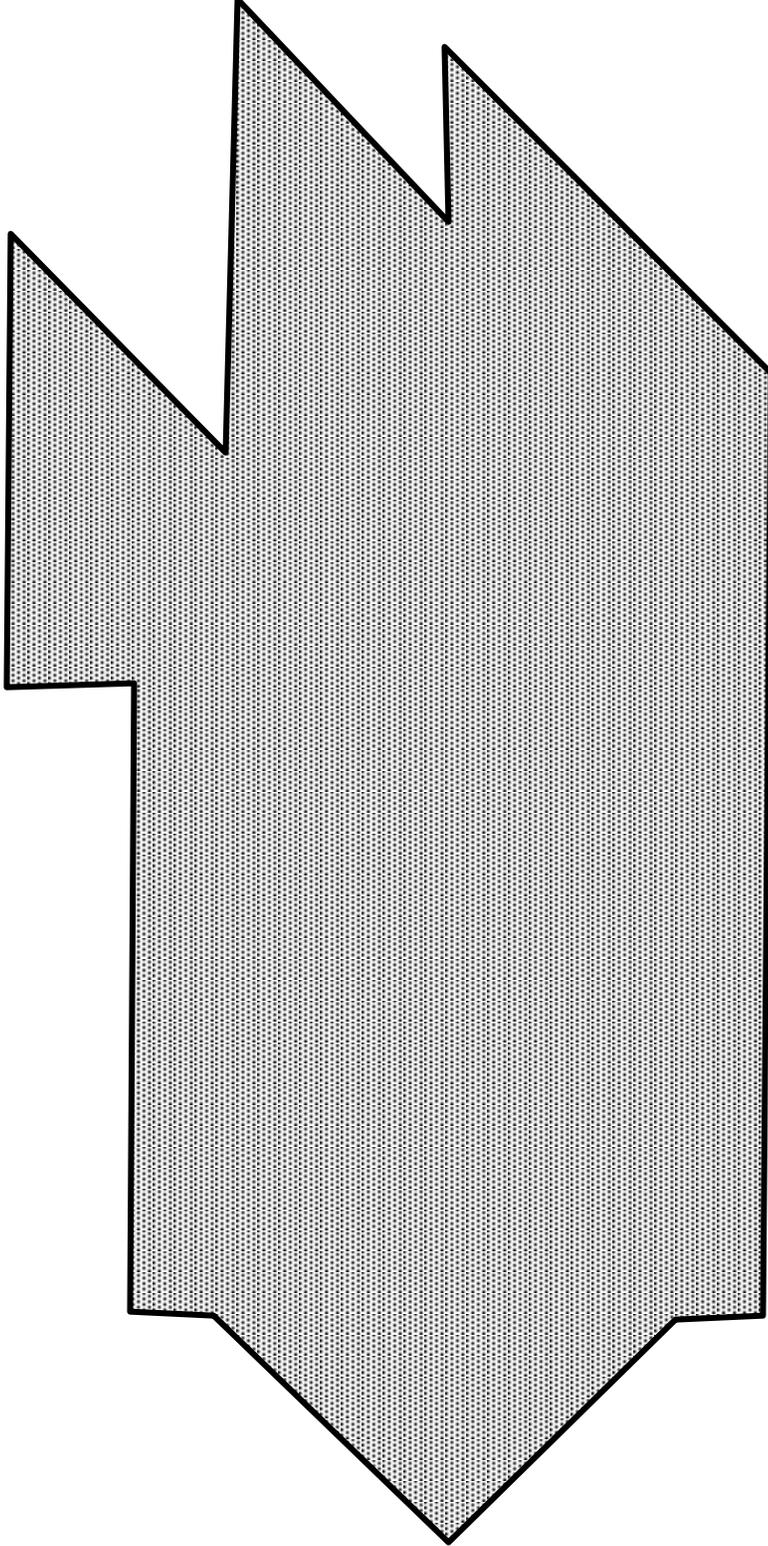
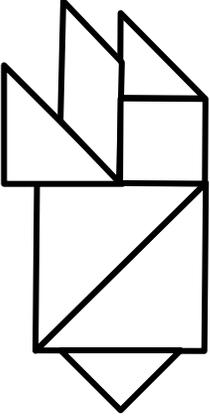




Le paon

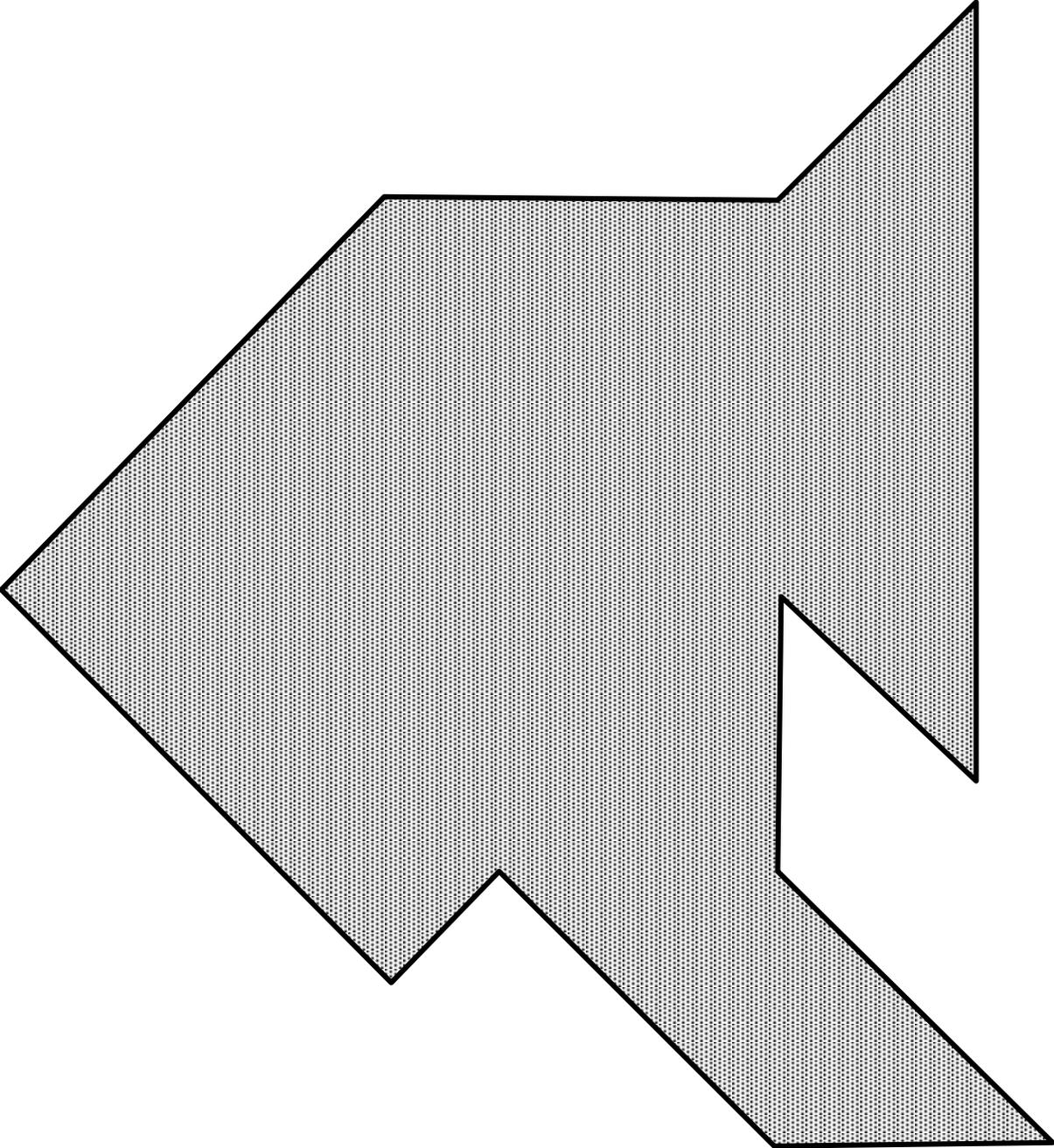


Le paon

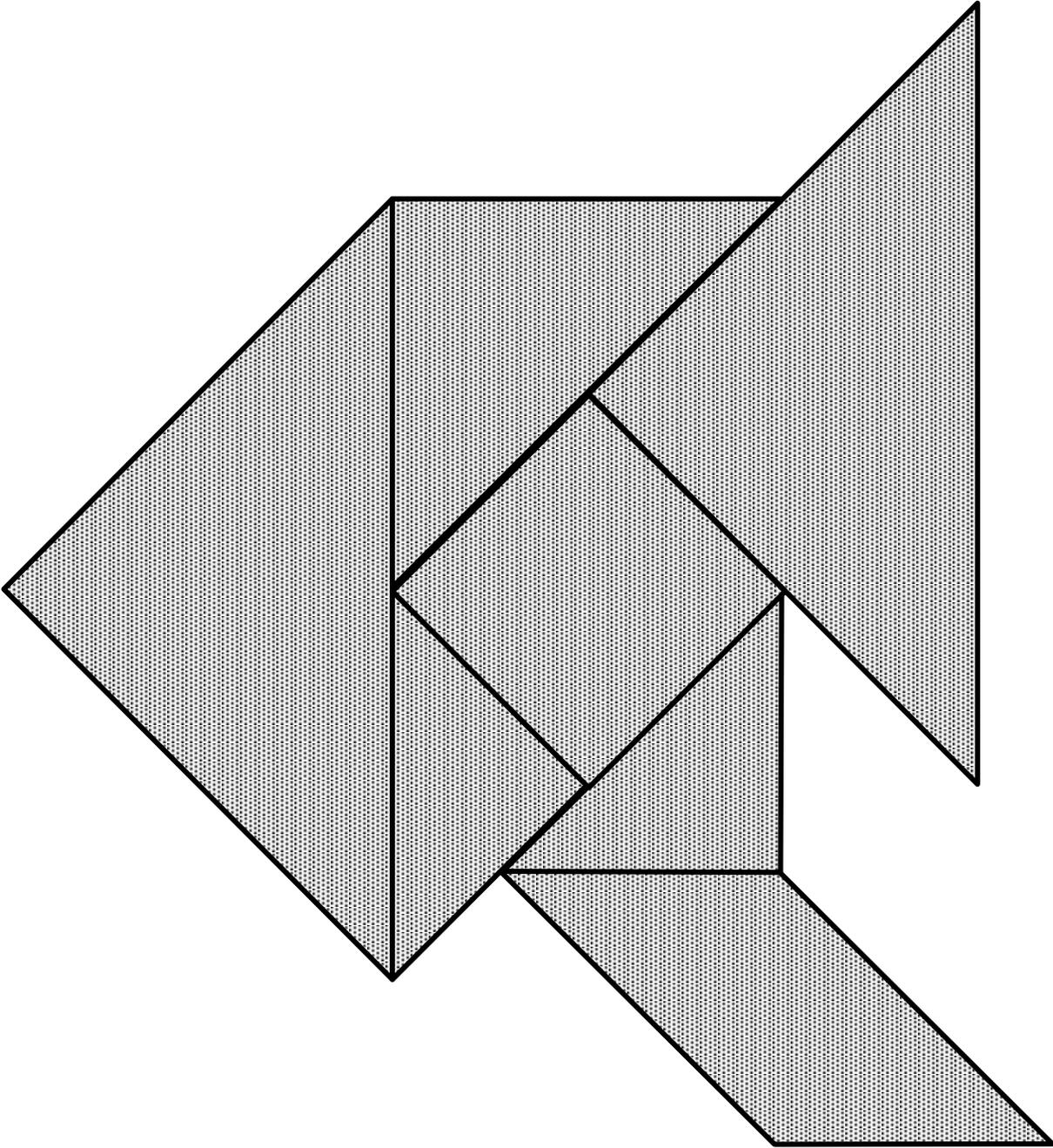


Le paon

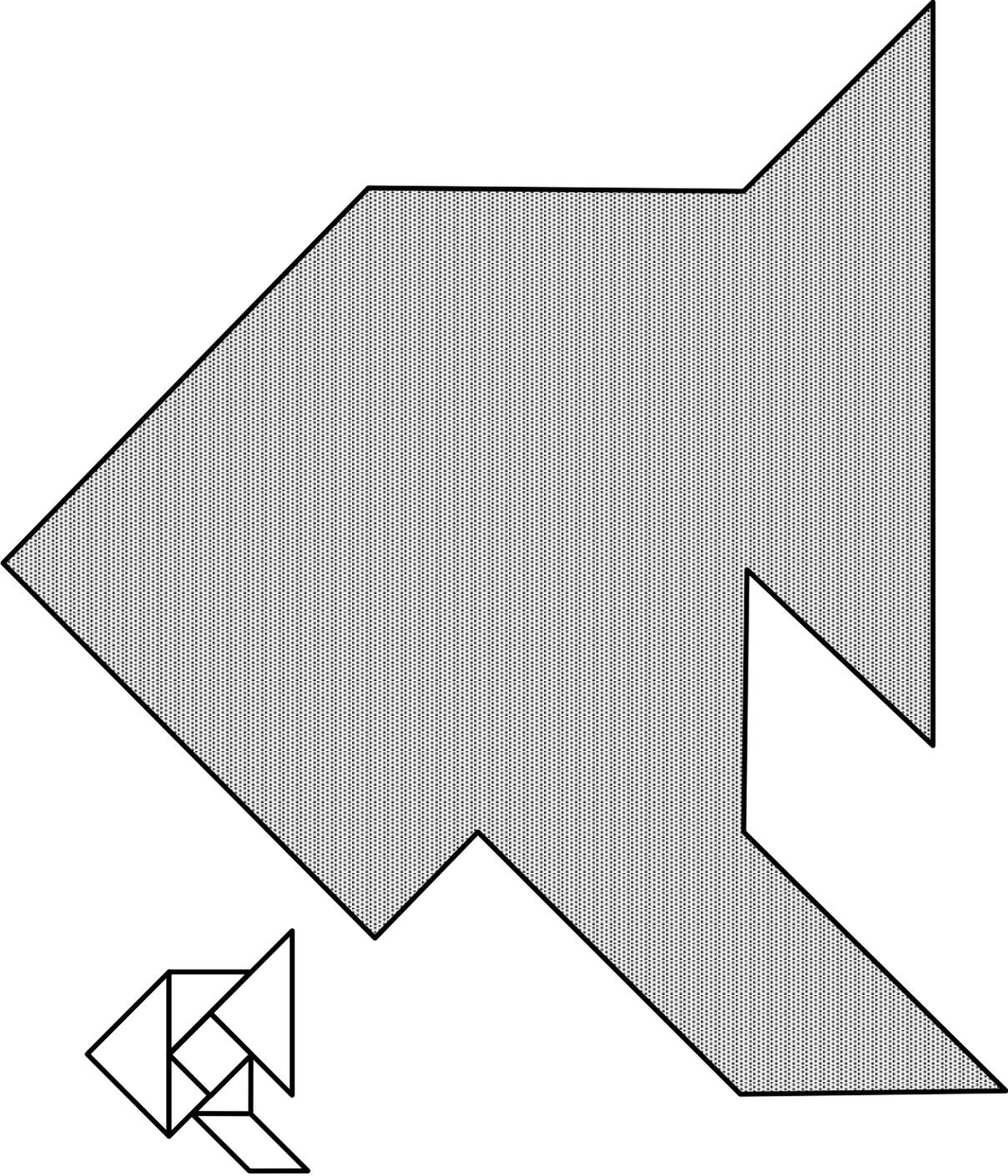
Un poisson

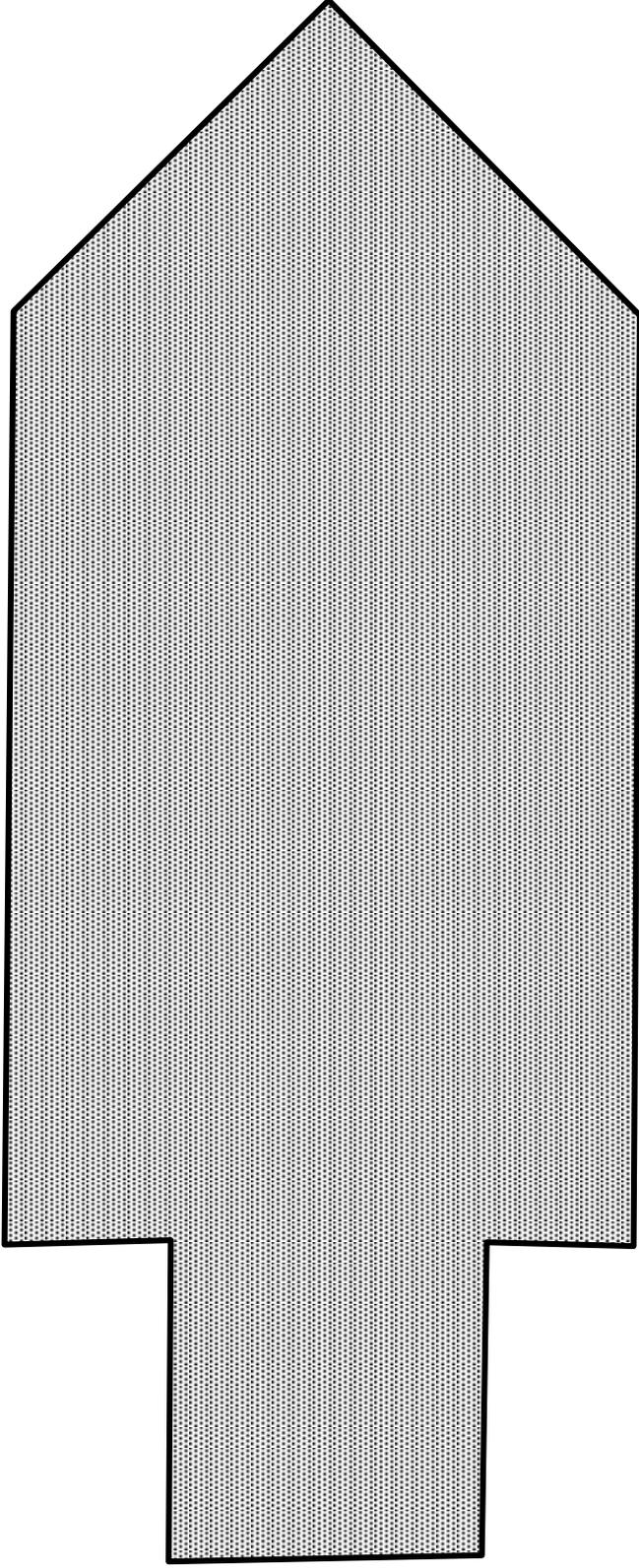


Un poisson

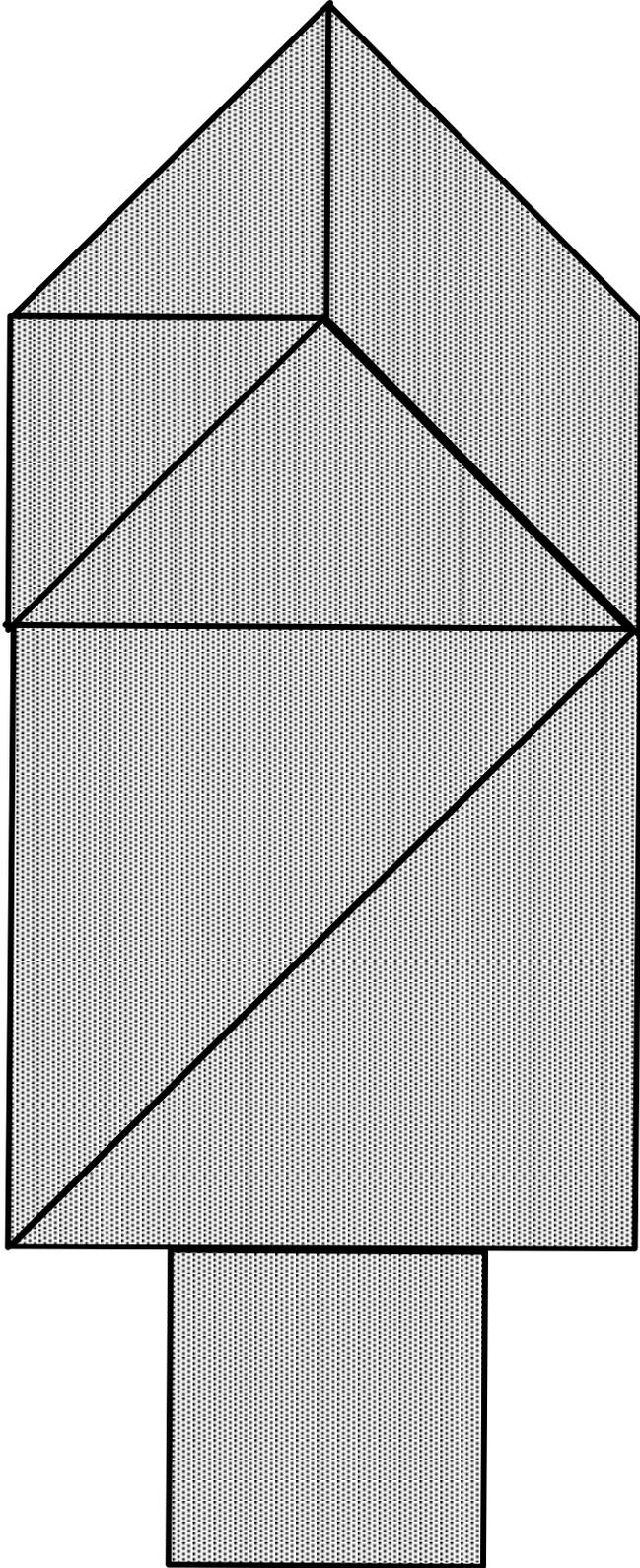


Un poisson

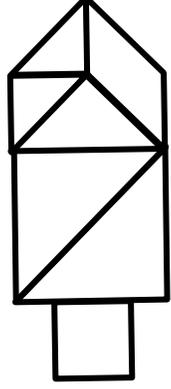
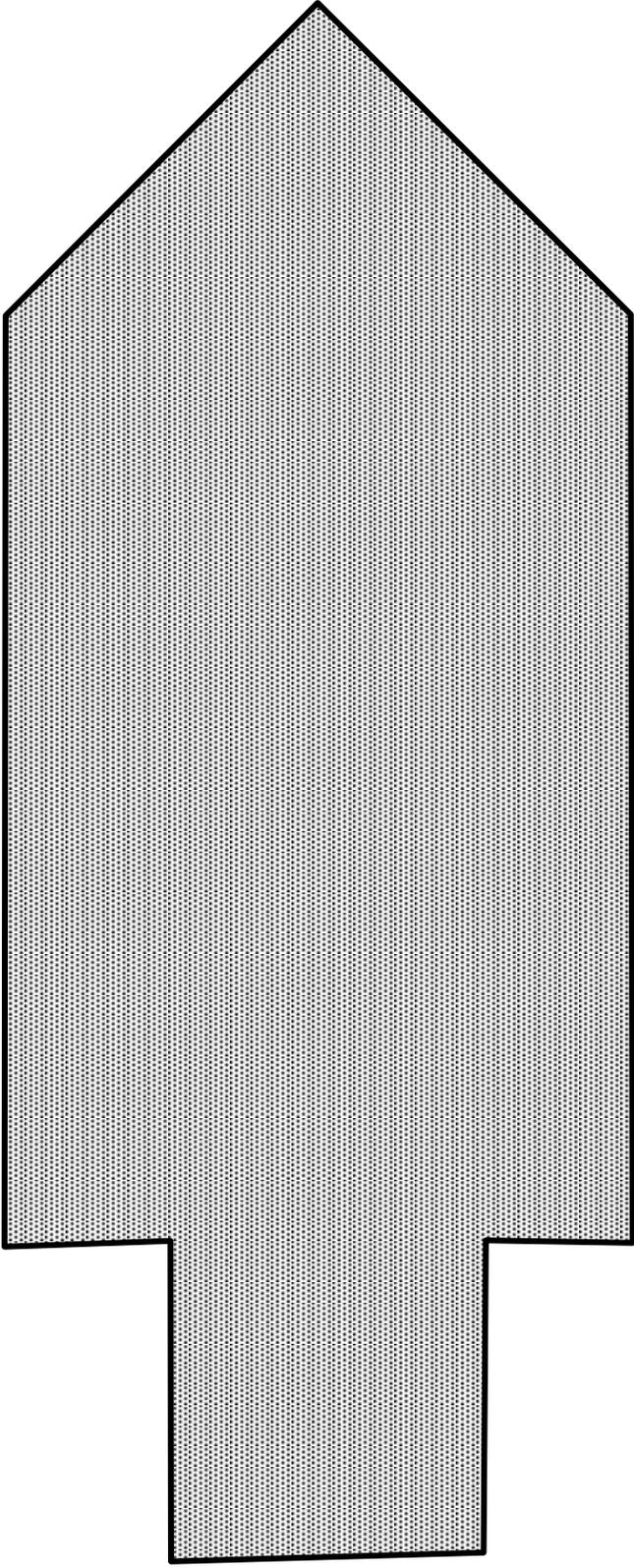




Un poisson

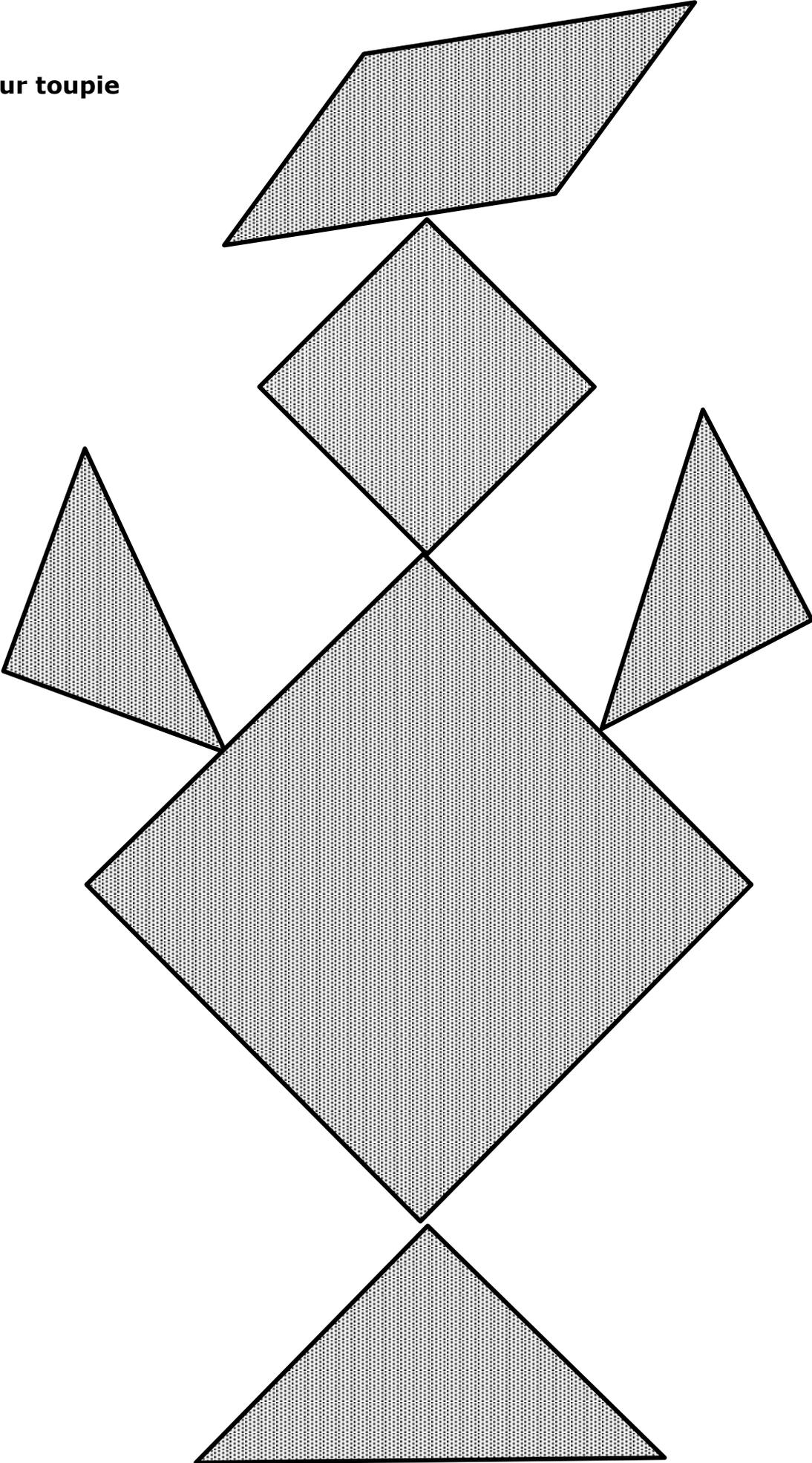


Un poisson

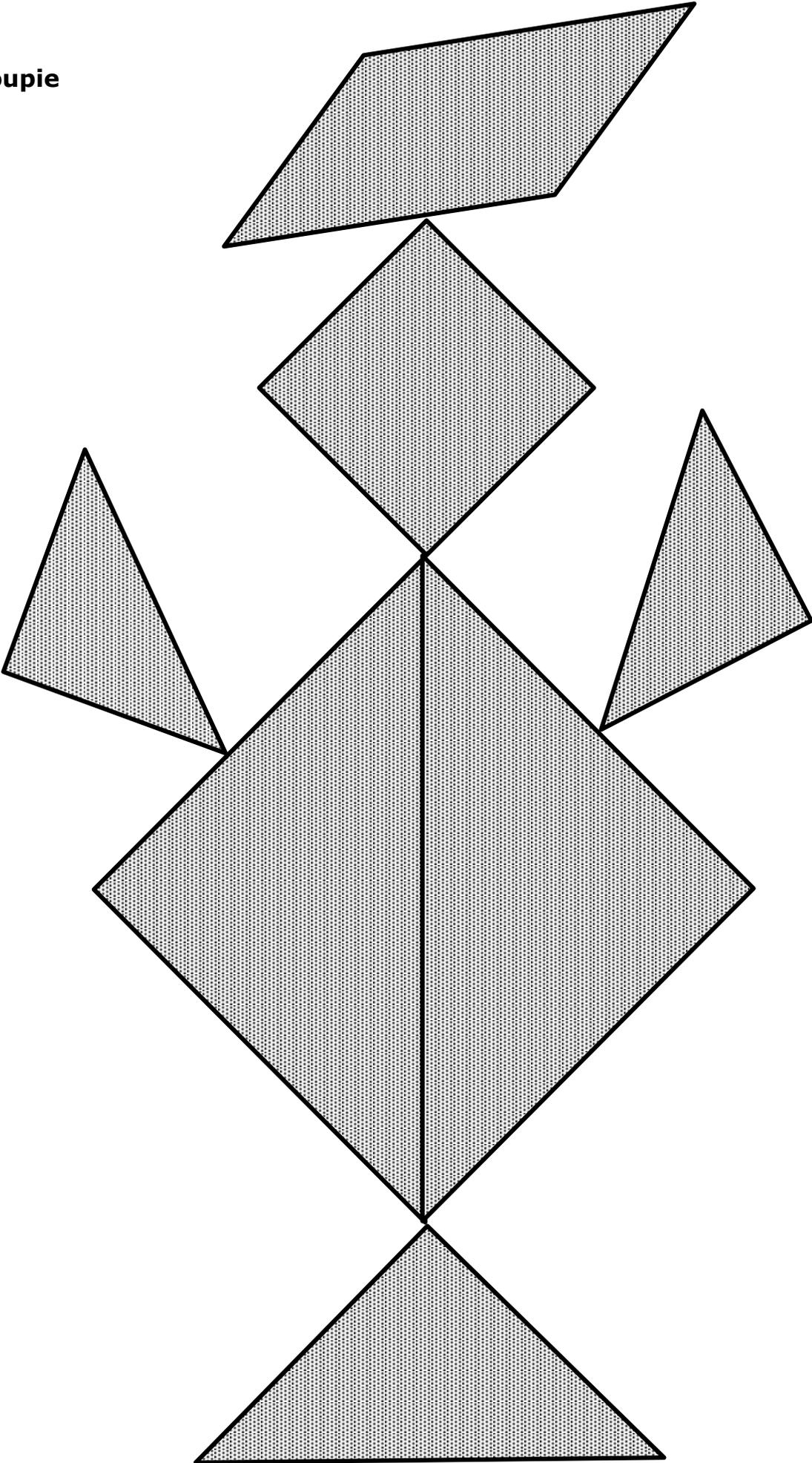


Un poisson

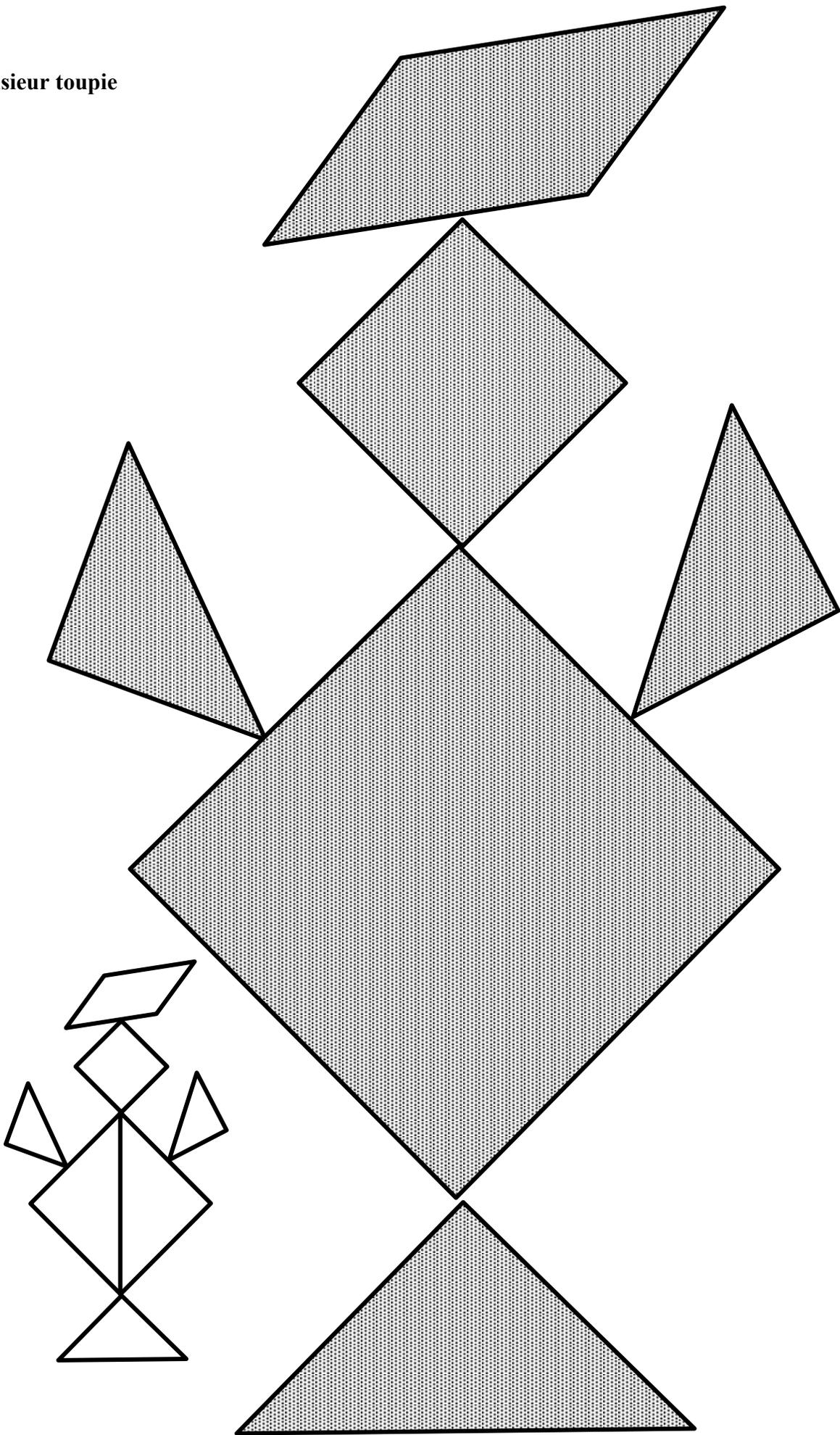
Monsieur toupie



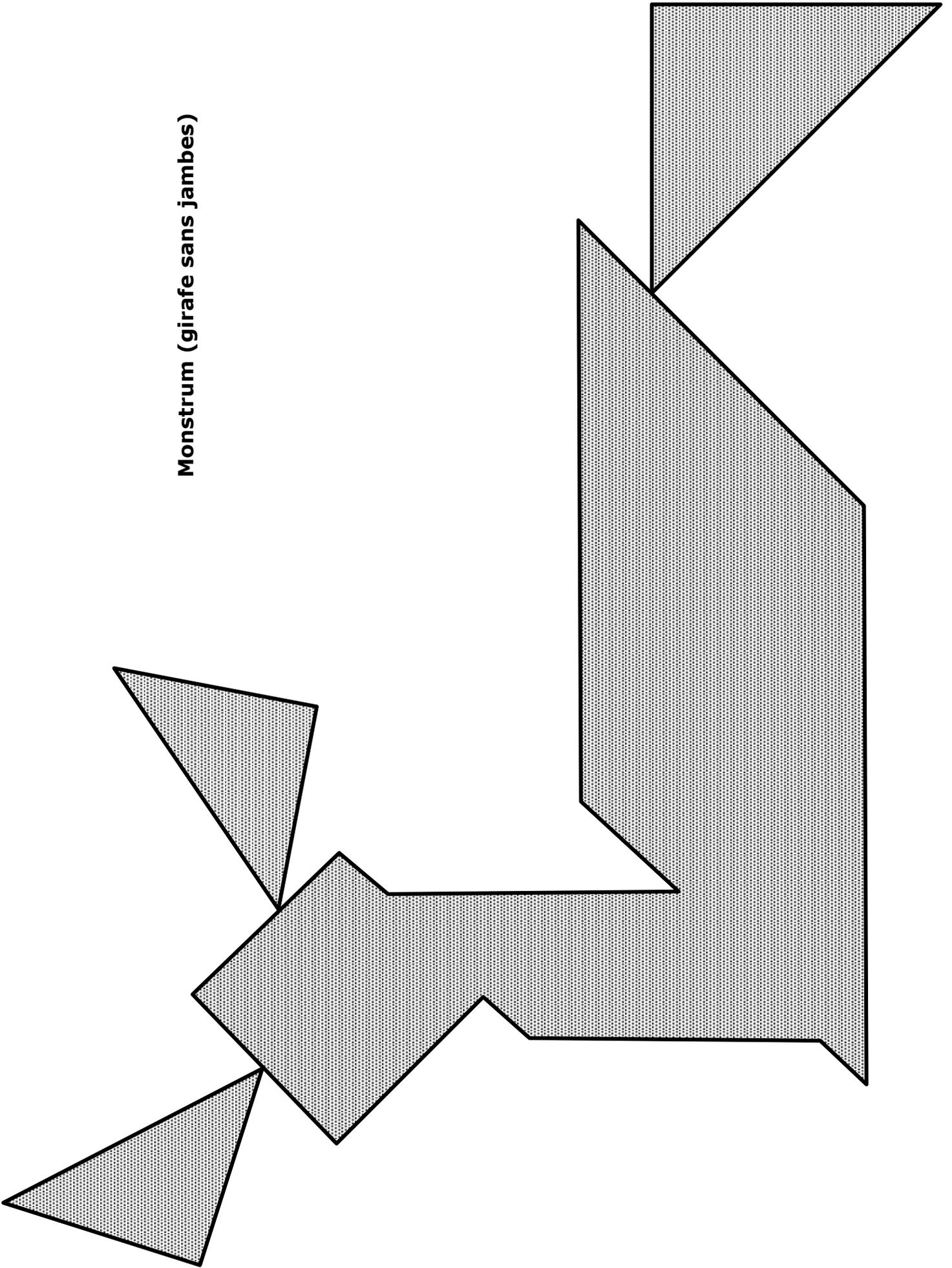
Monsieur toupie



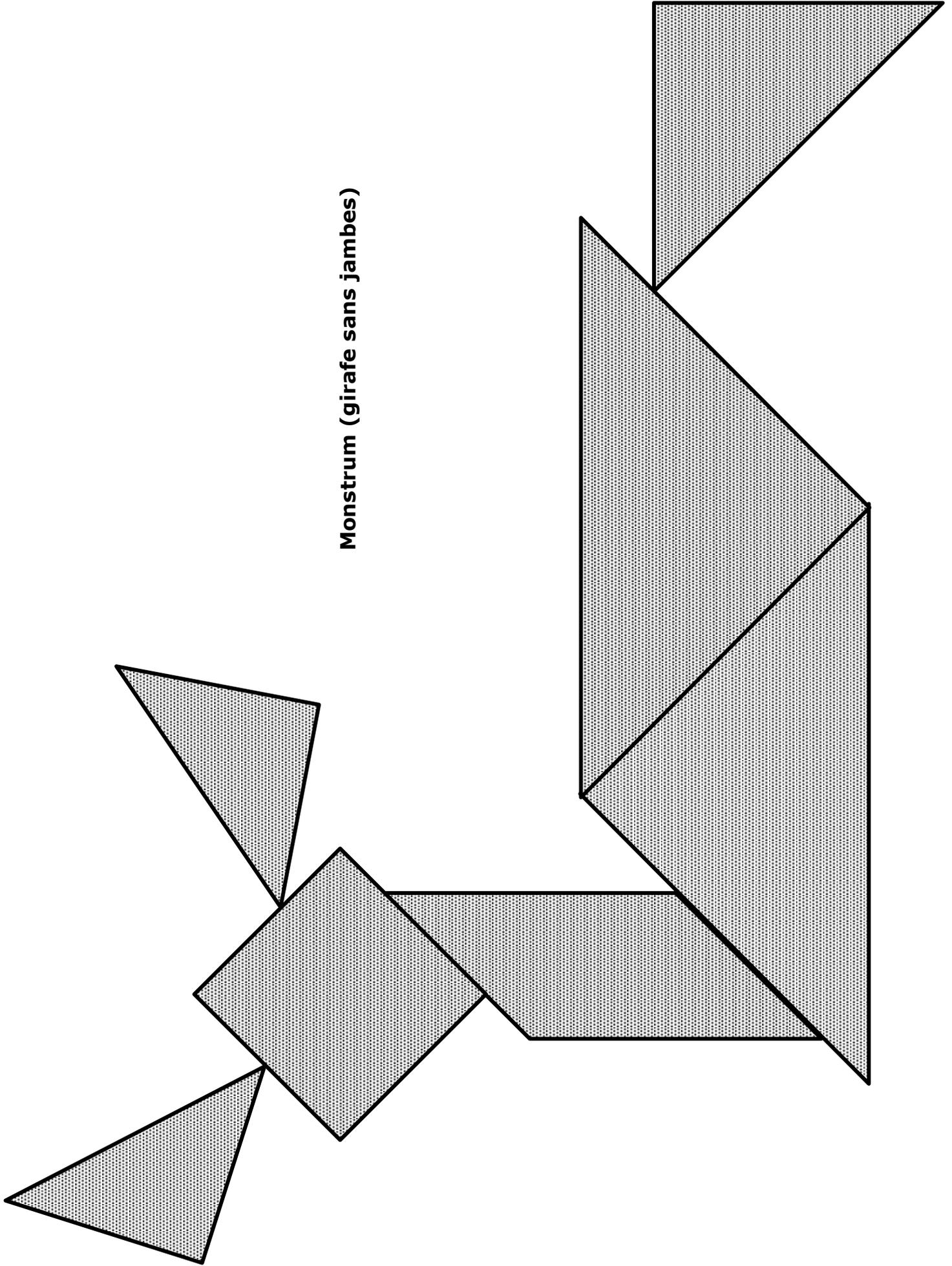
Monsieur toupie



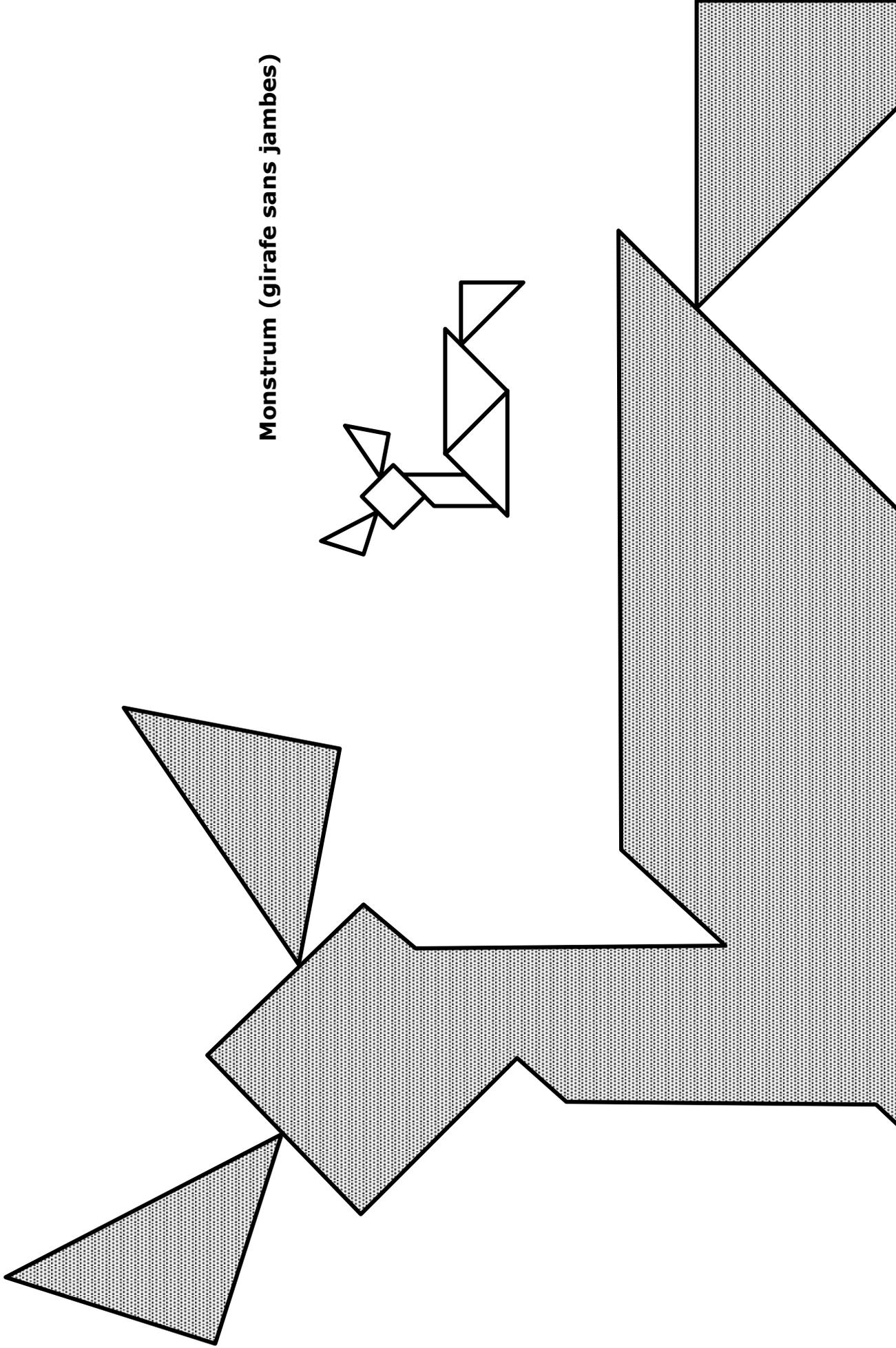
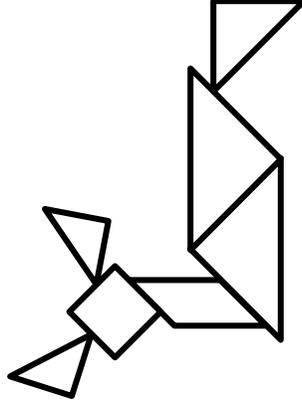
Monstrum (girafe sans jambes)

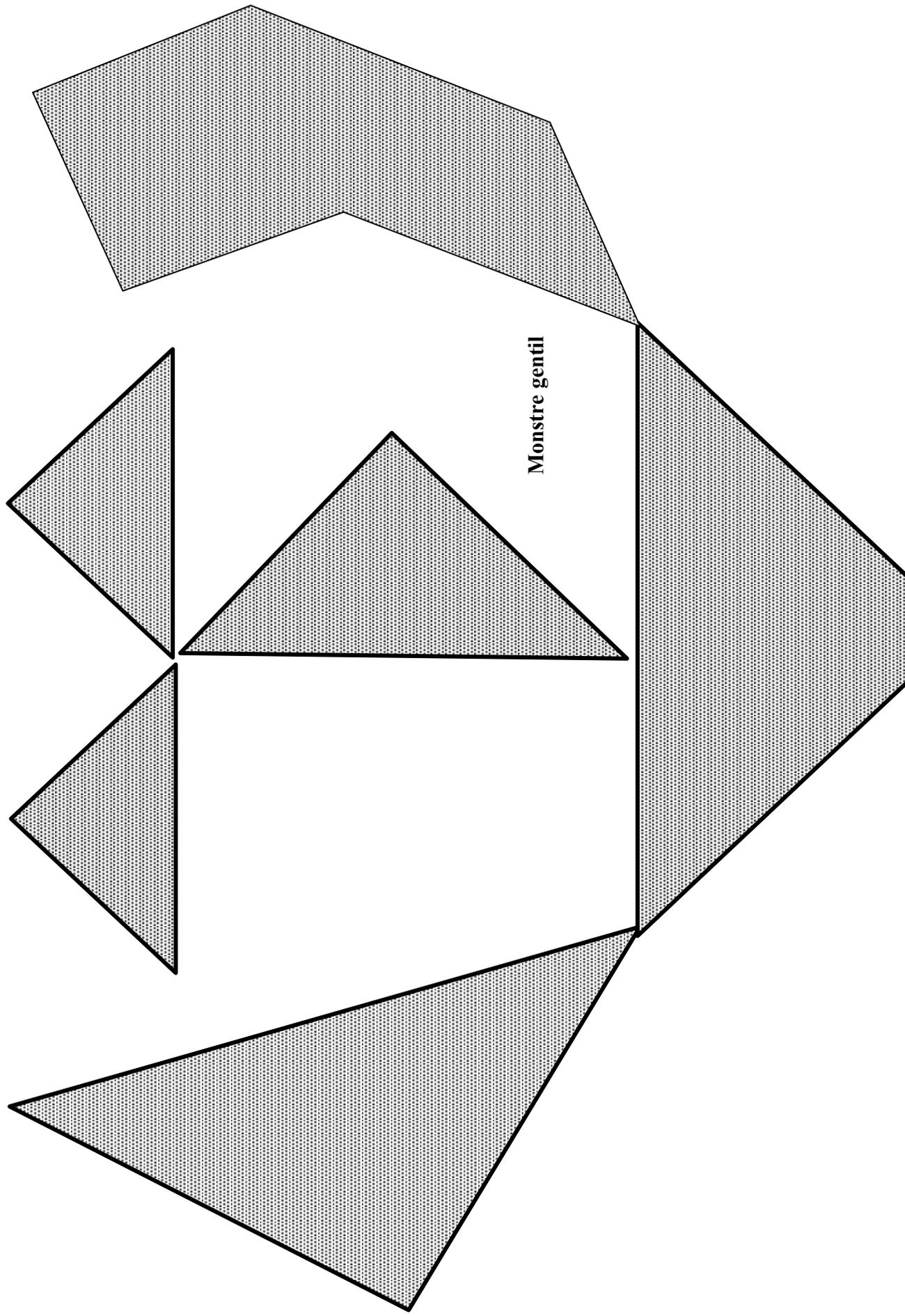


Monstrum (girafe sans jambes)

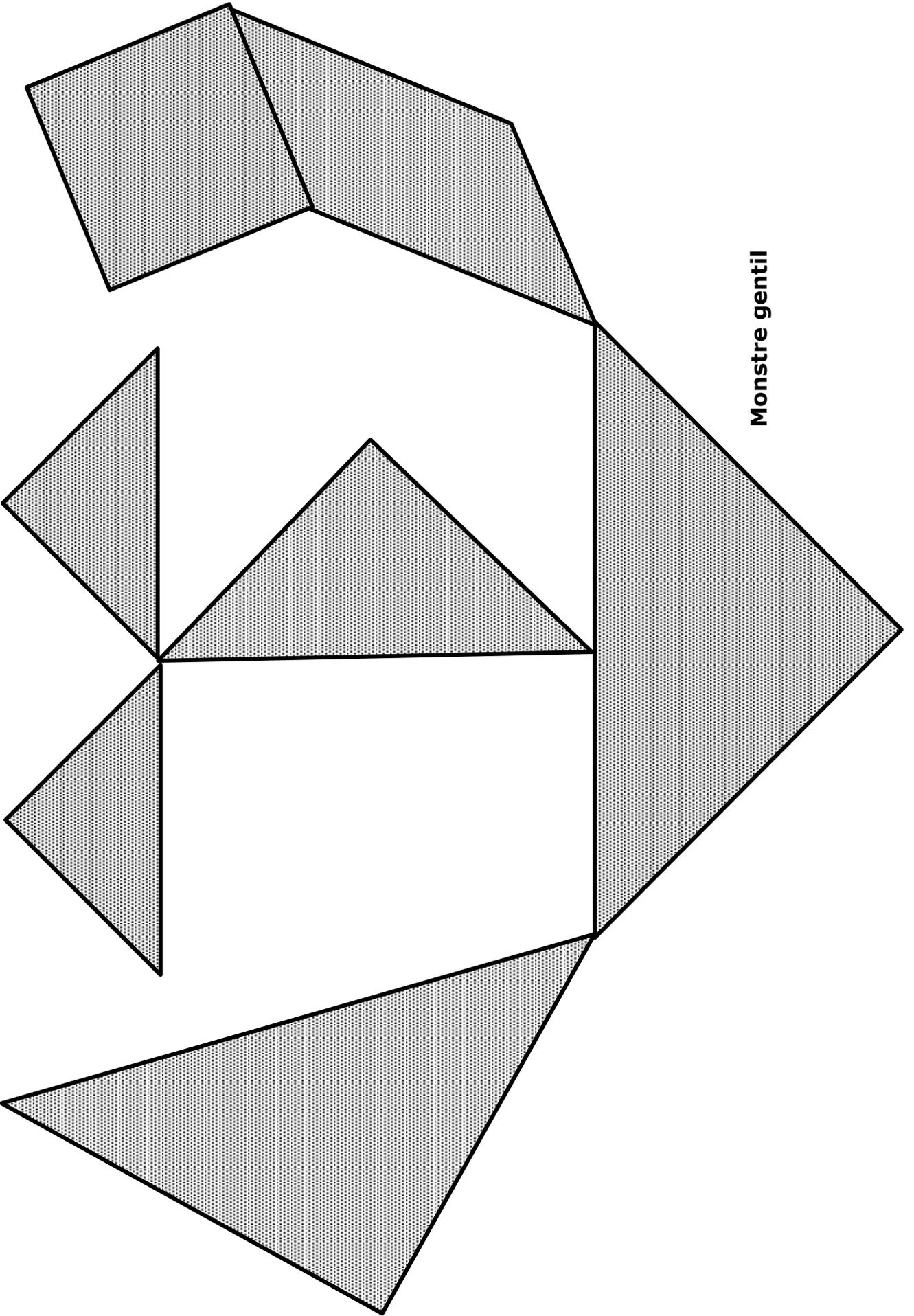


Monstrum (girafe sans jambes)

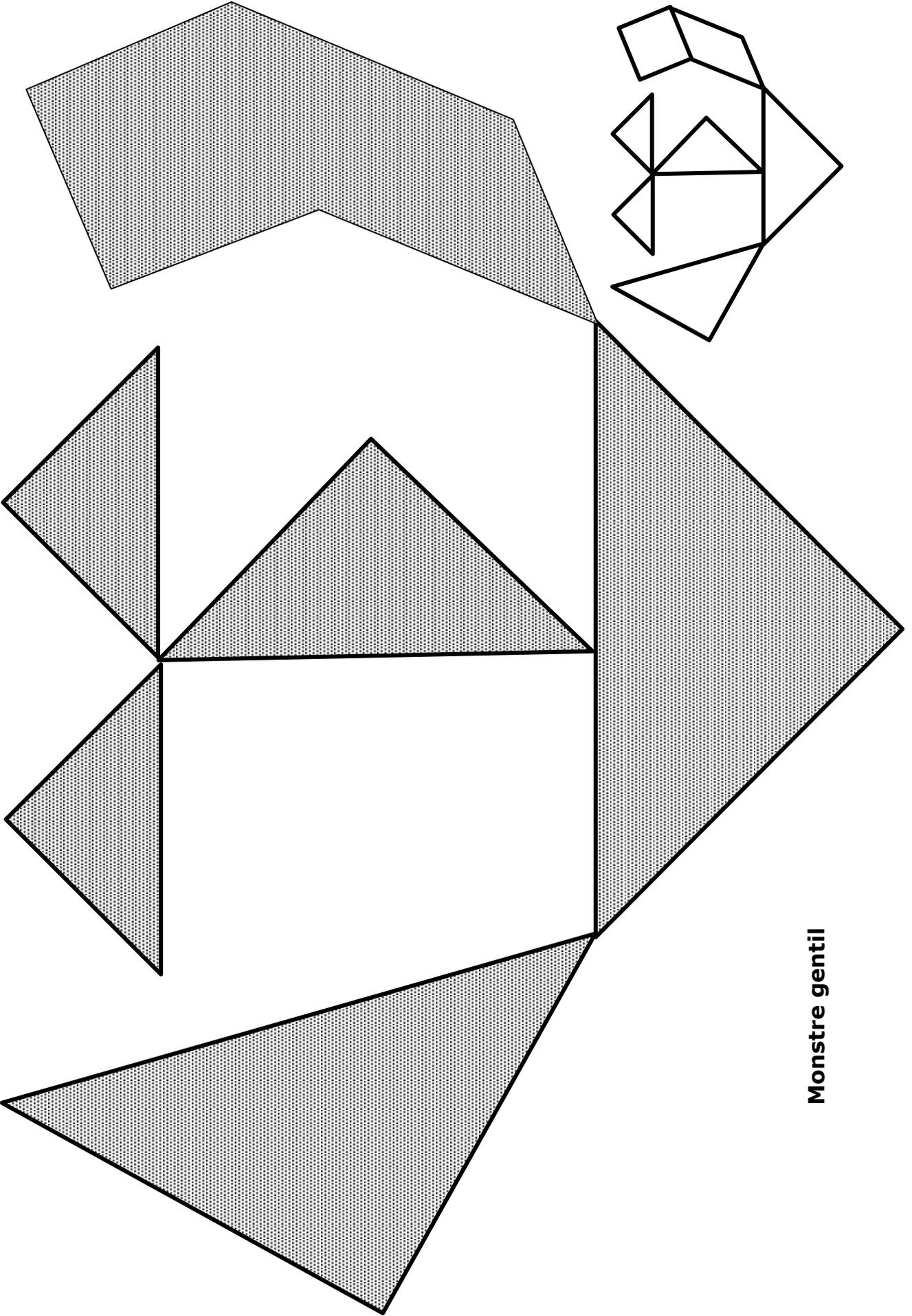




Monstre gentil

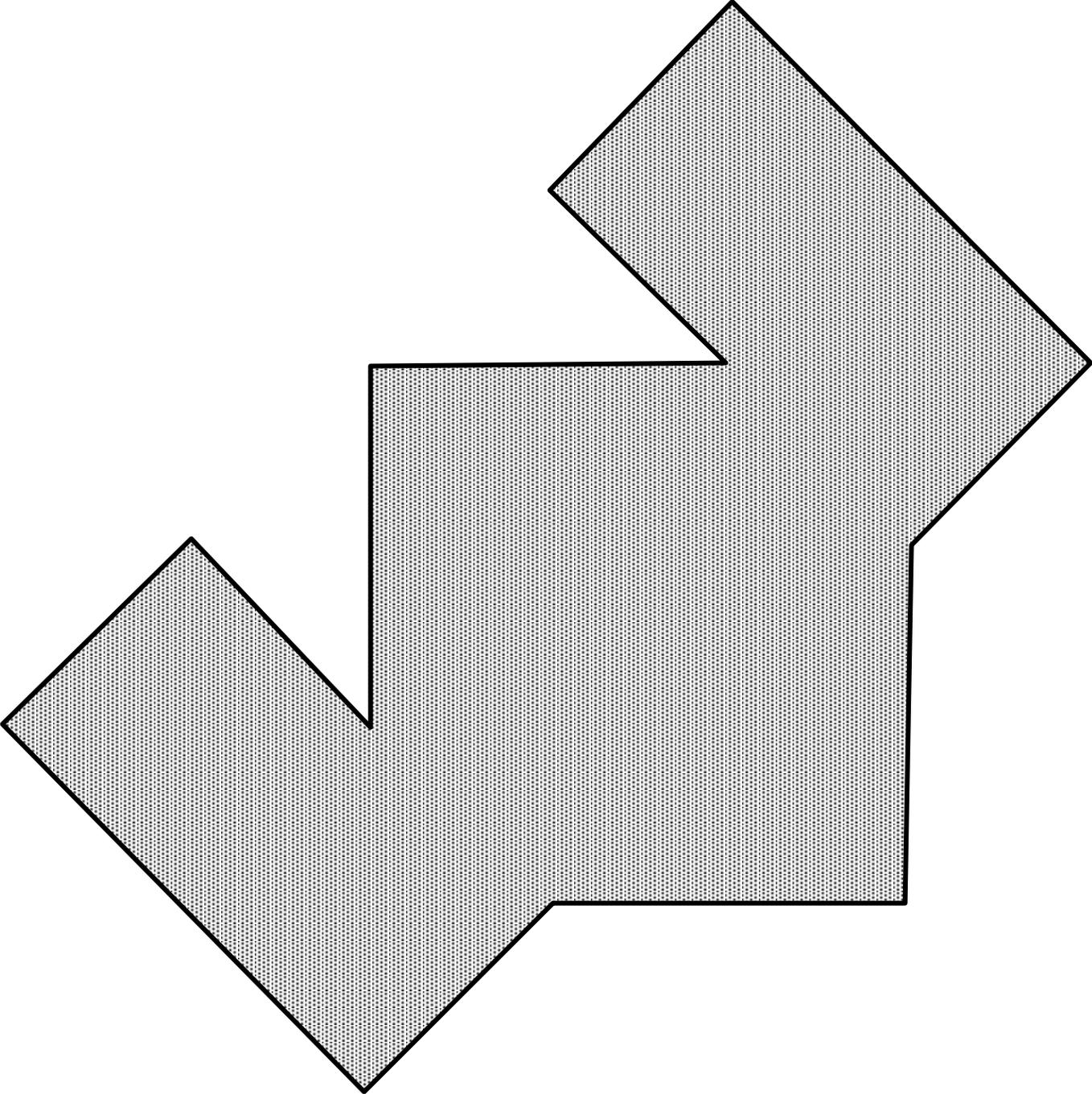


Monstre gentil

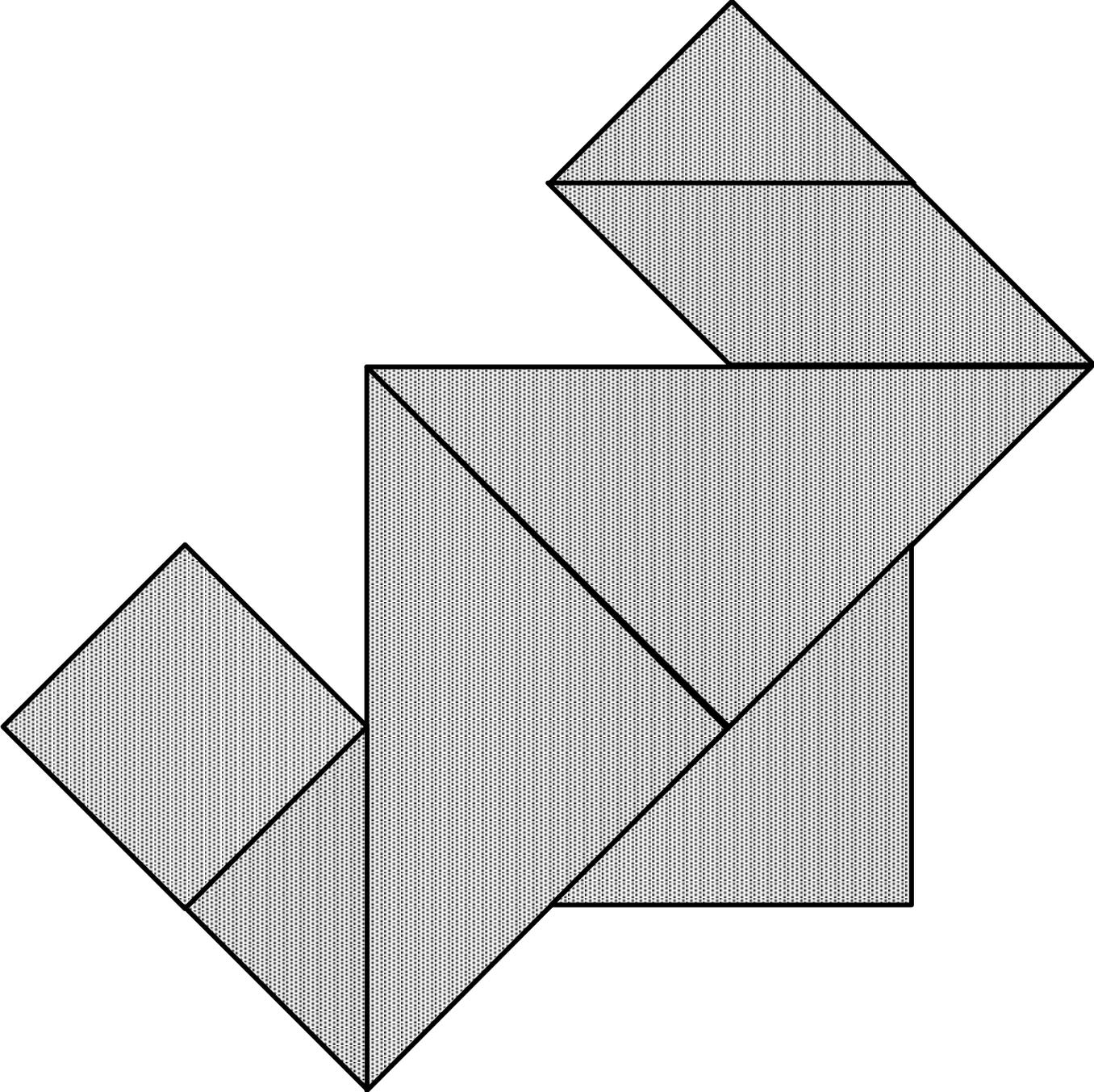


Monstre gentil

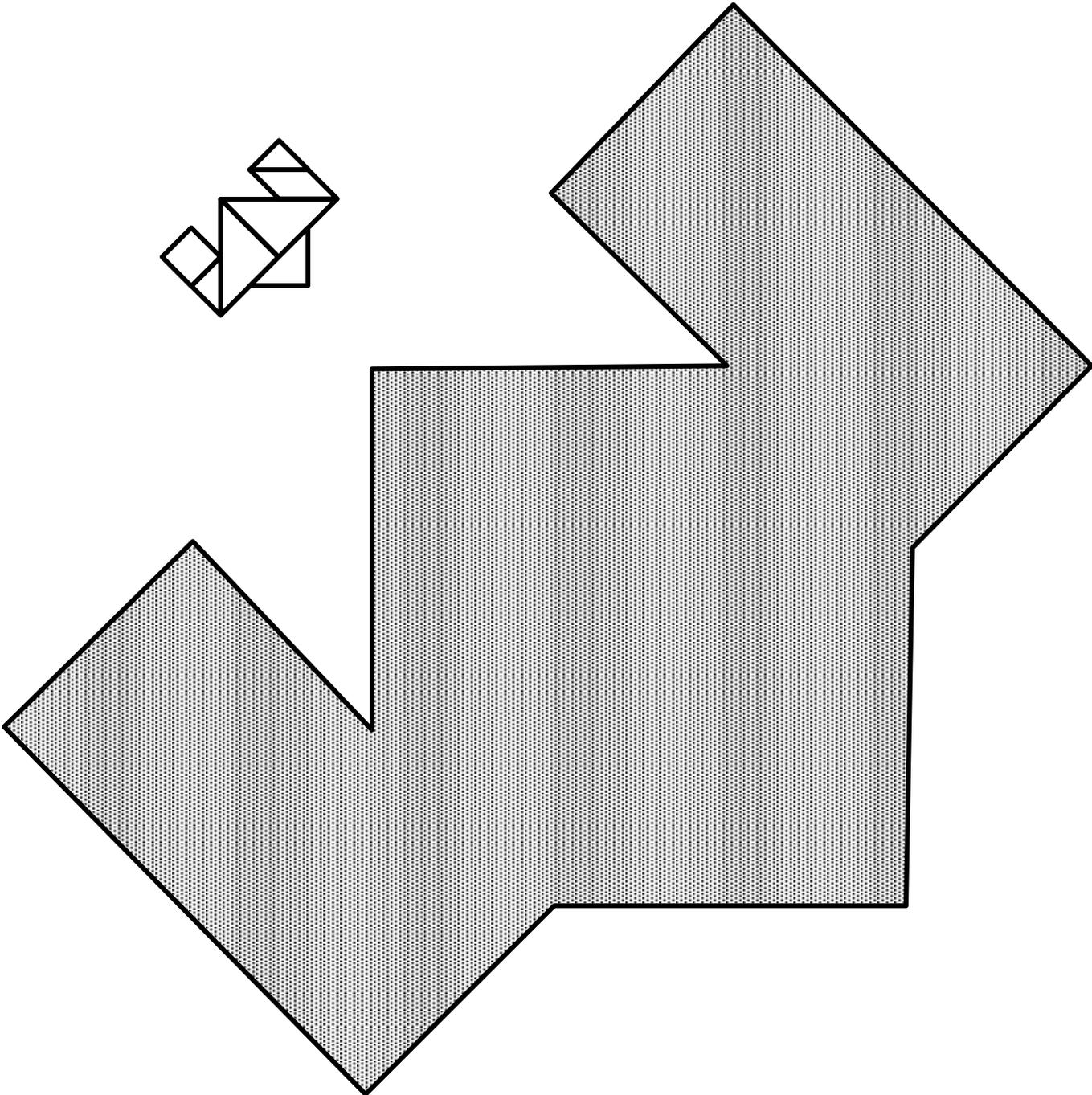
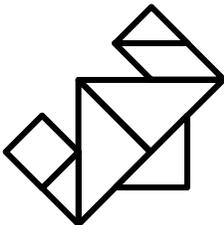
Carré rectangle



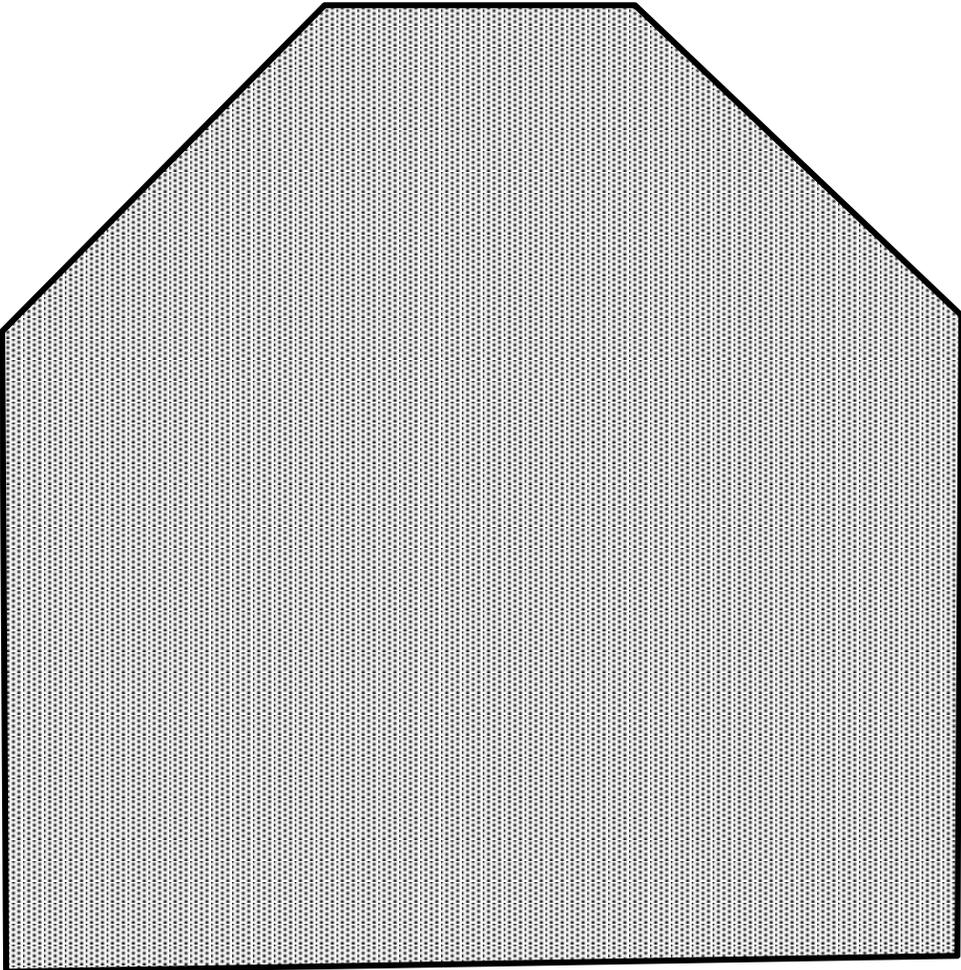
Carré rectangle



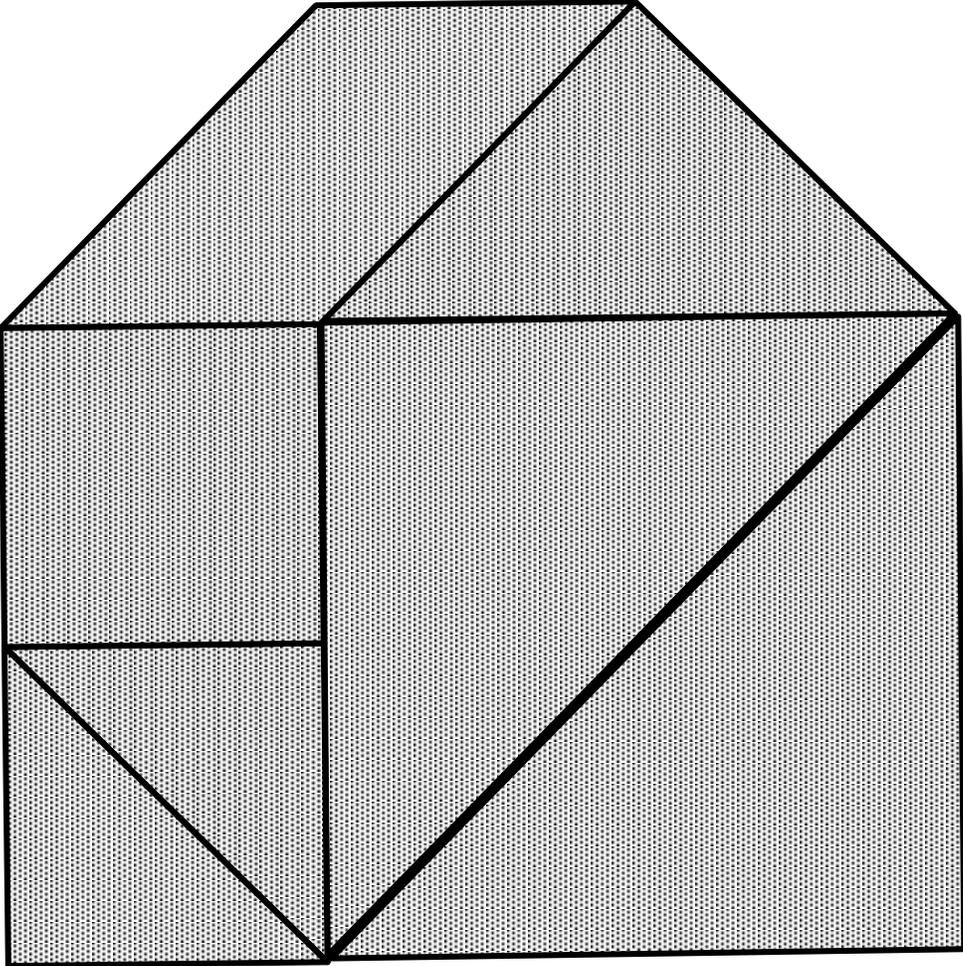
Carré rectangle



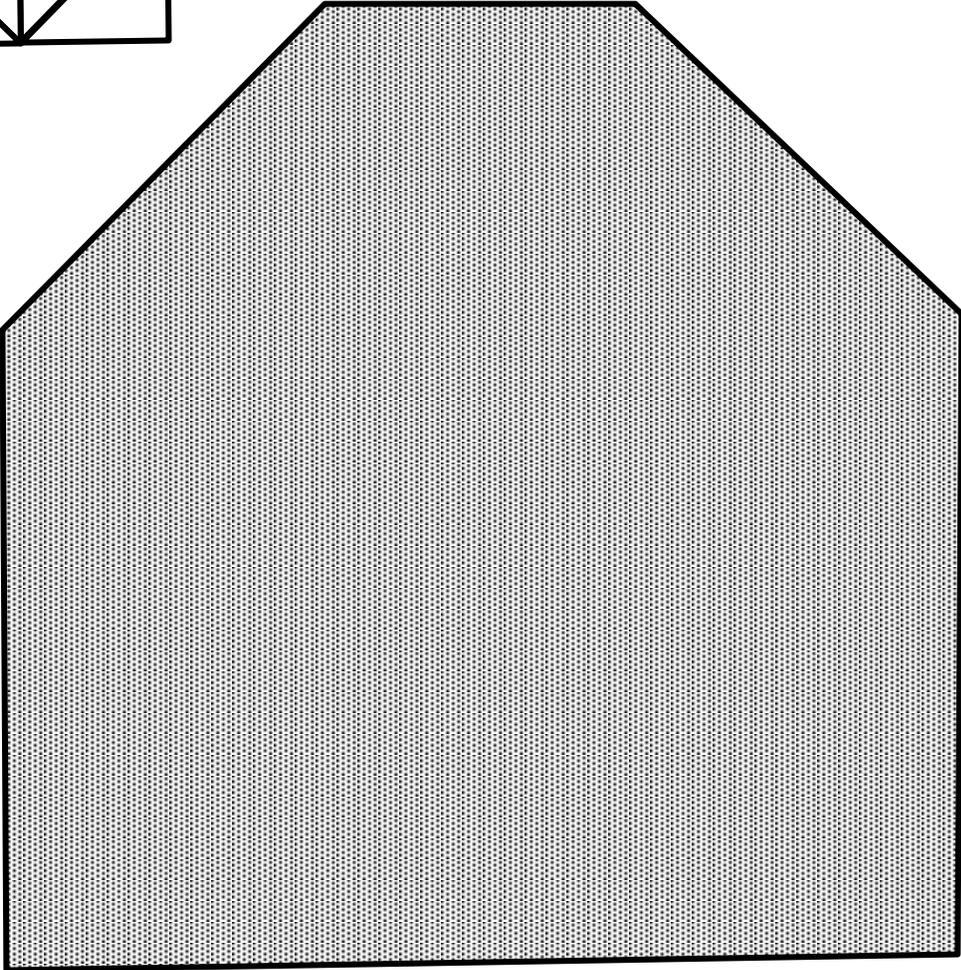
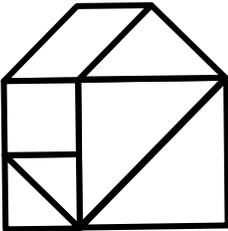
Maison



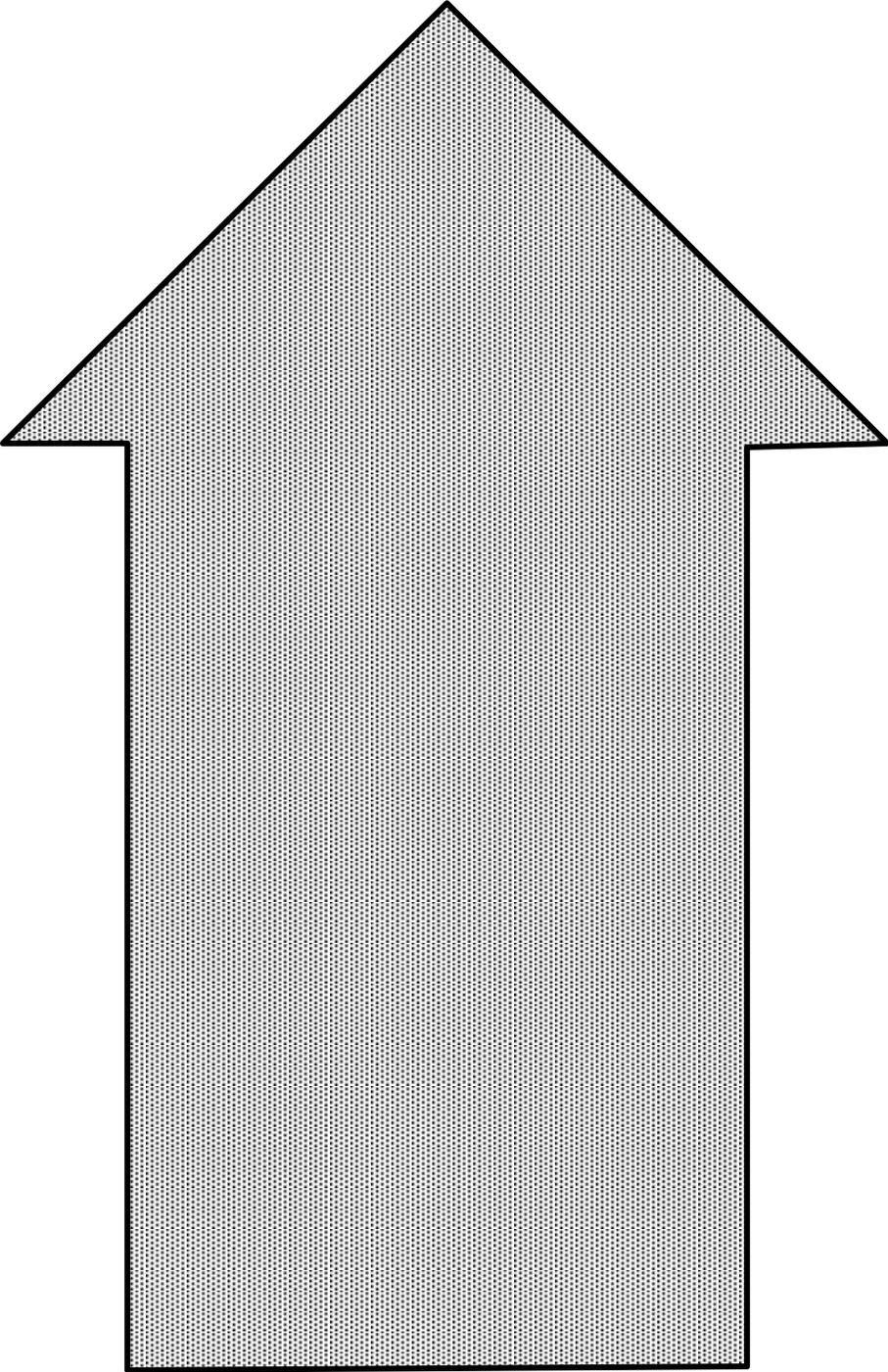
Maison



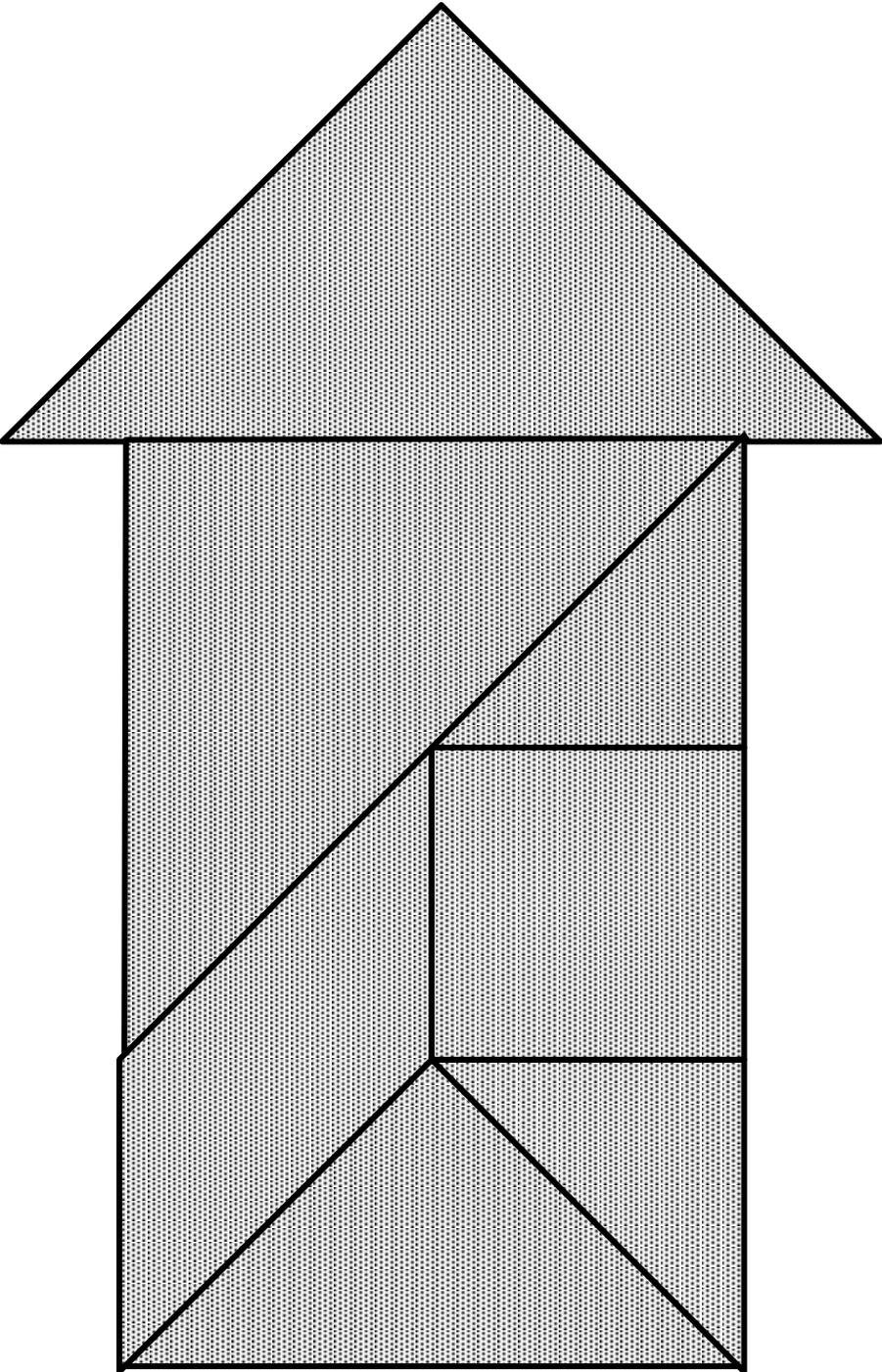
Maison



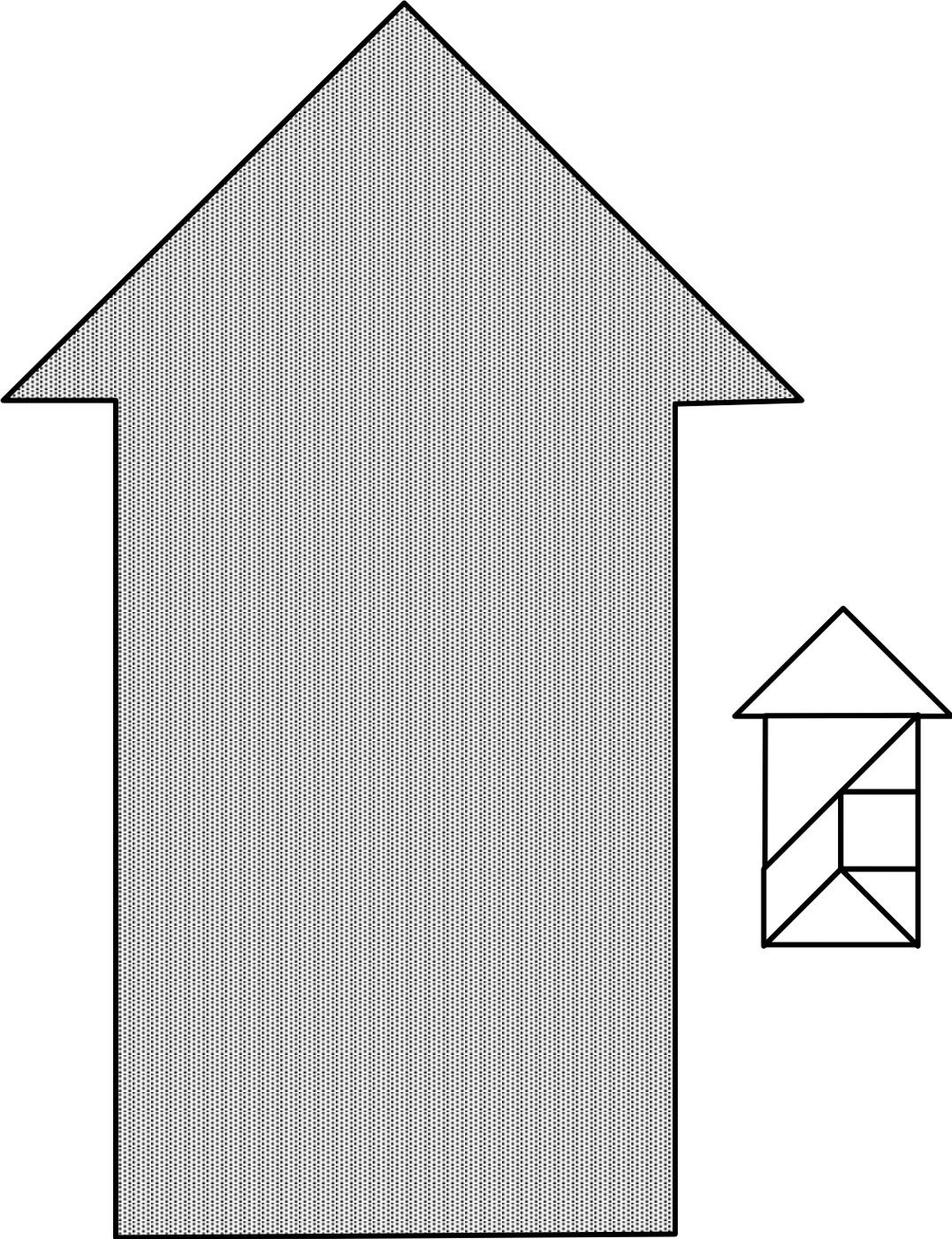
Une maison



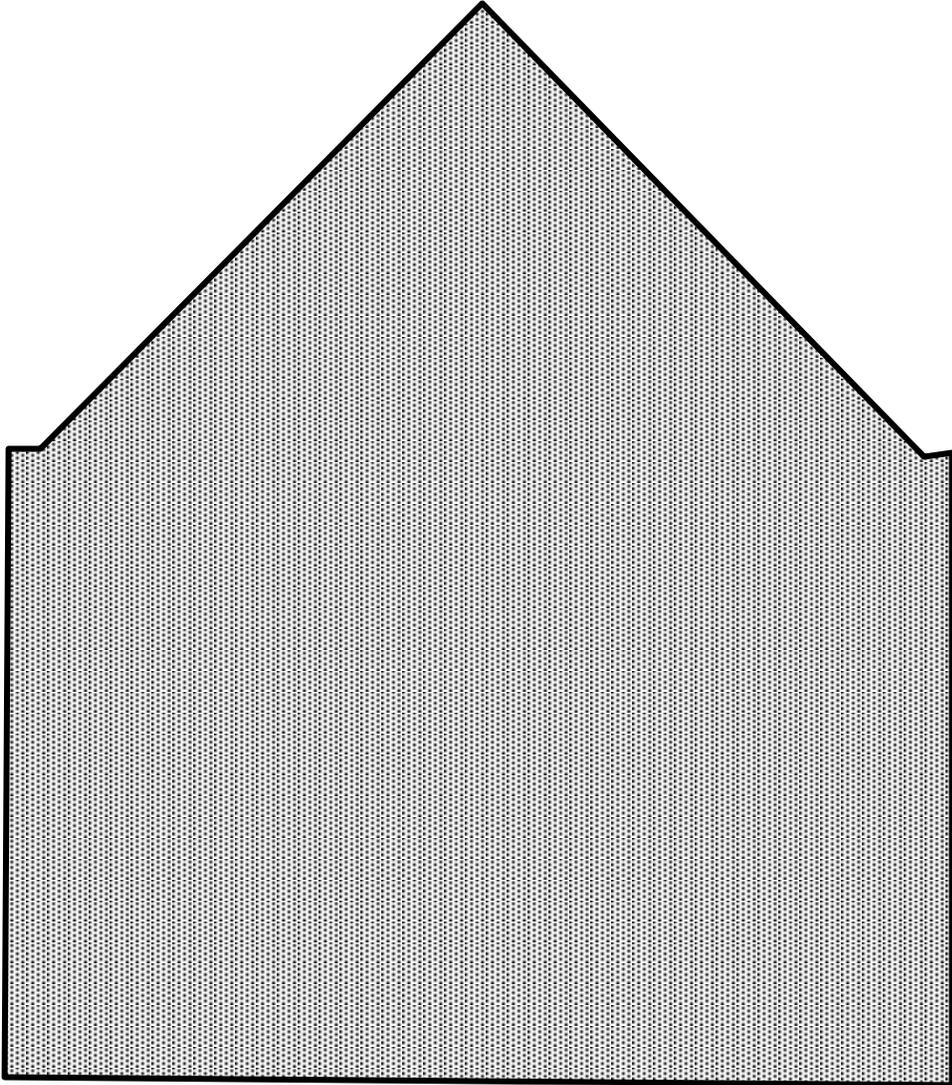
Une maison



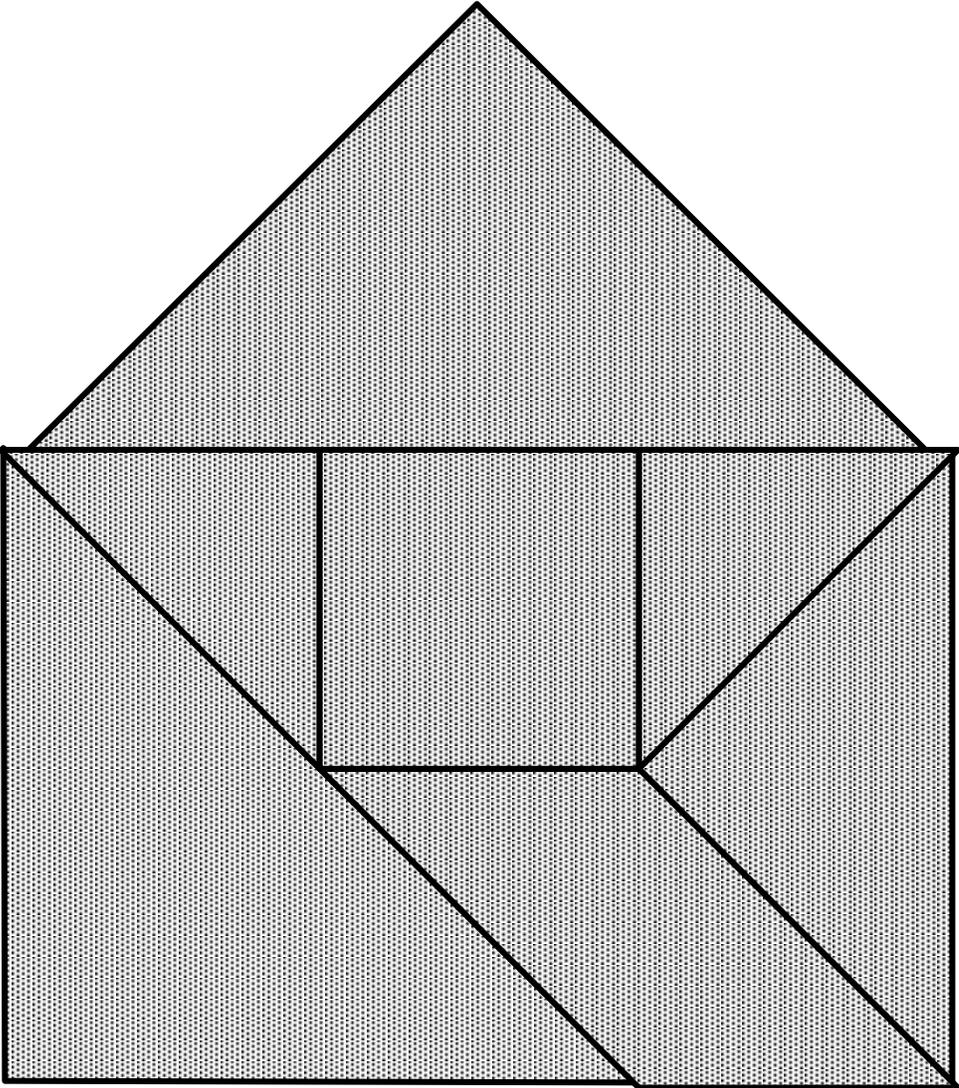
Une maison



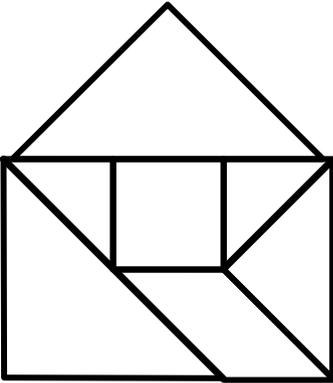
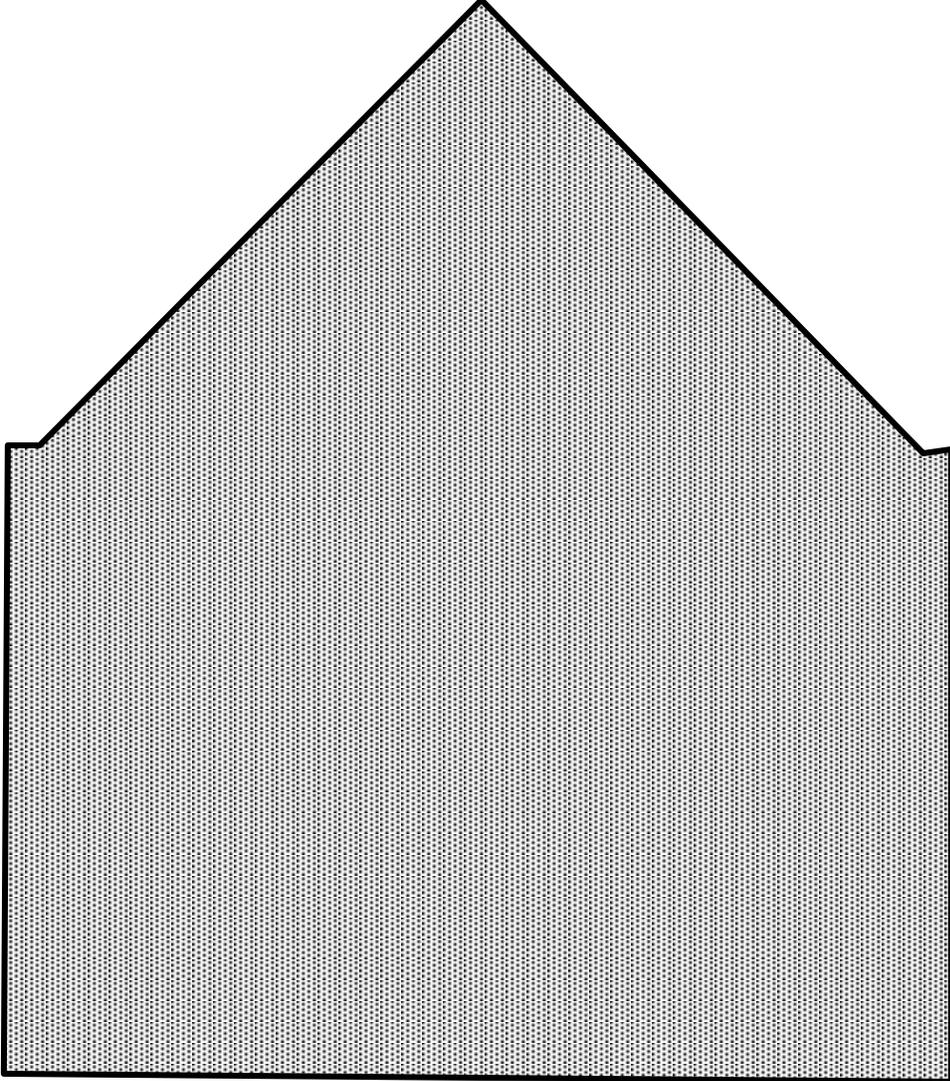
Une maison



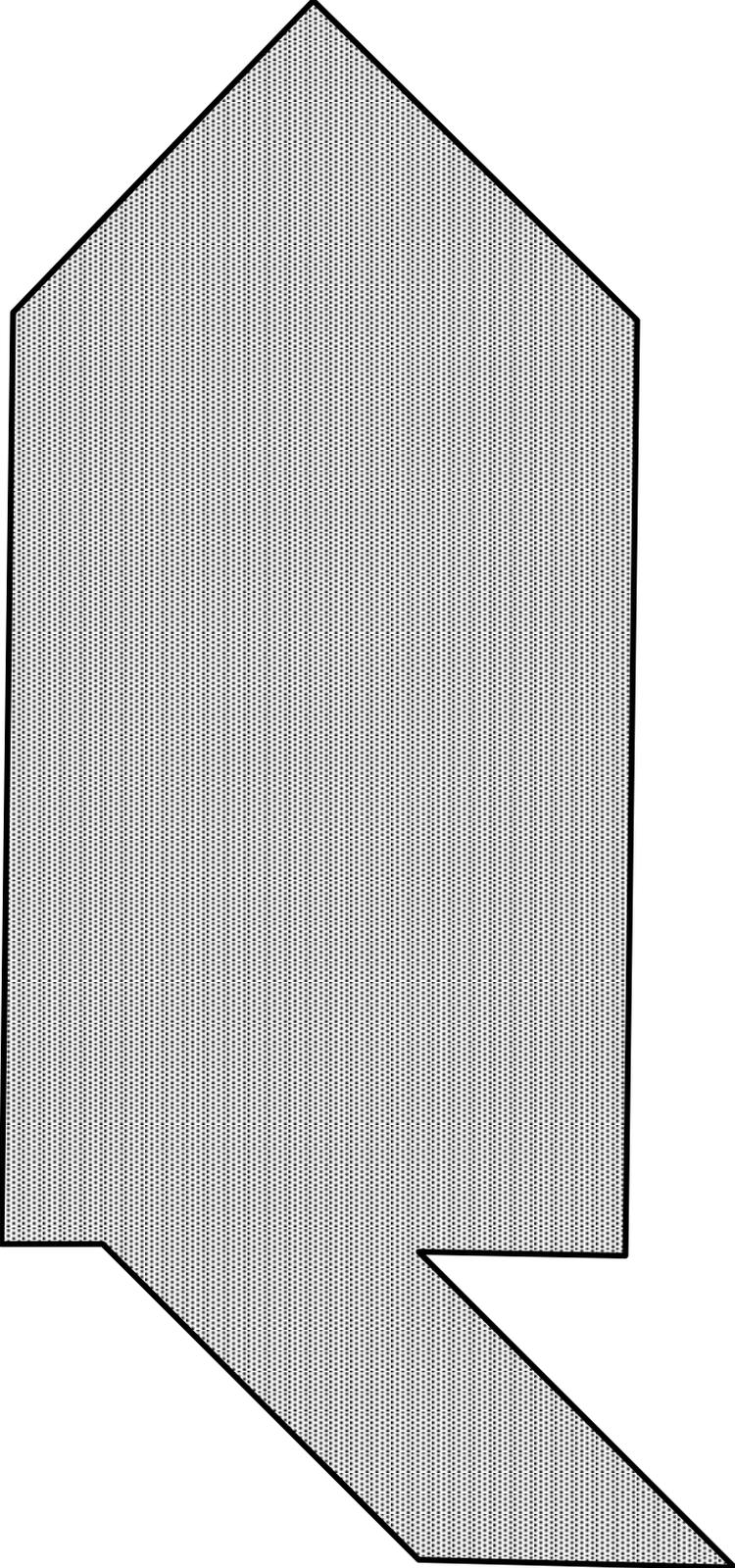
Une maison



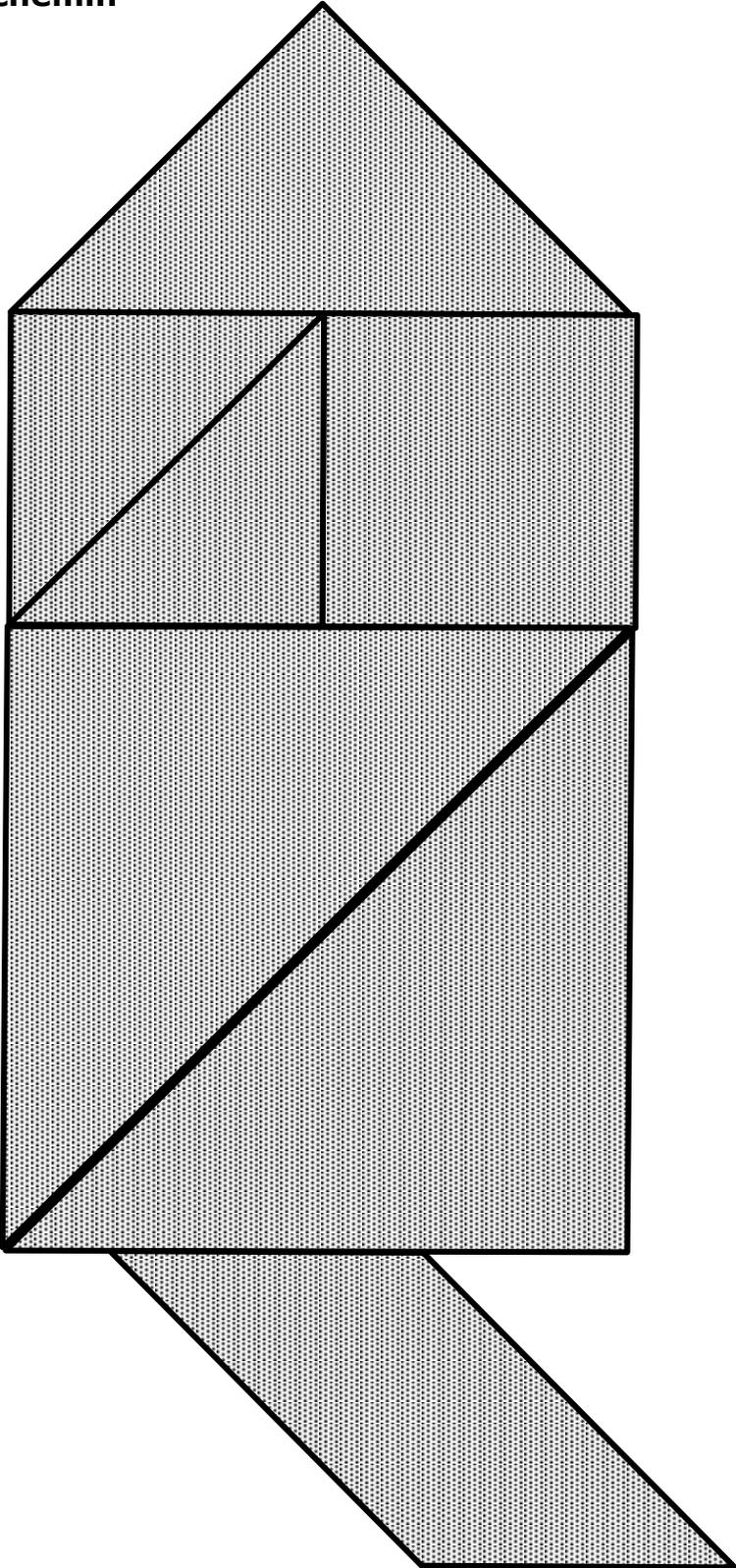
Une maison



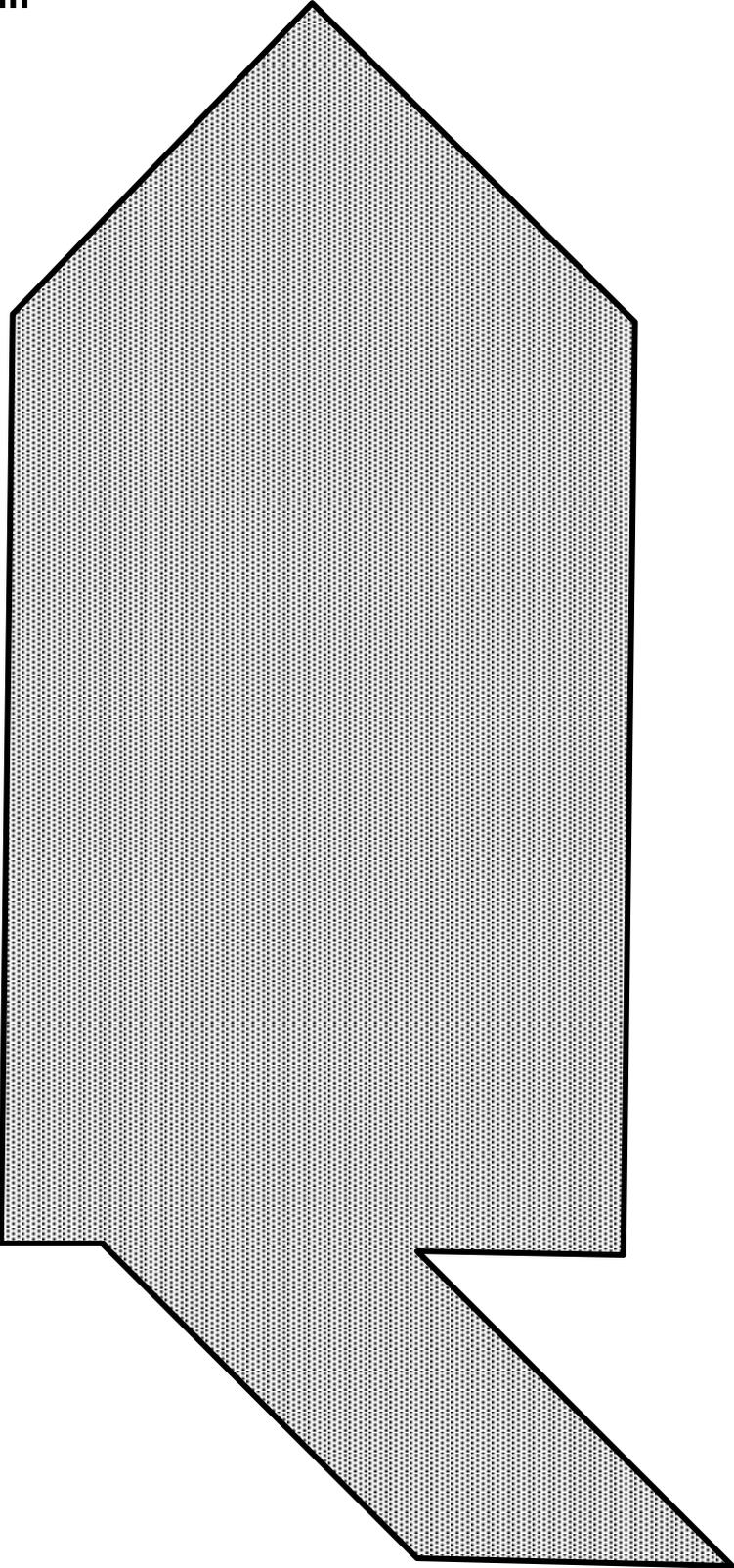
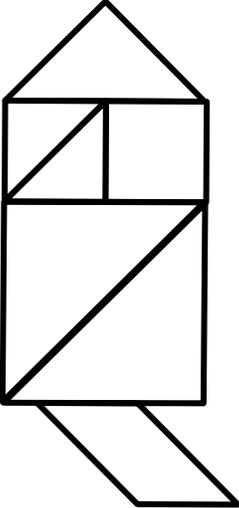
La maison avec un chemin



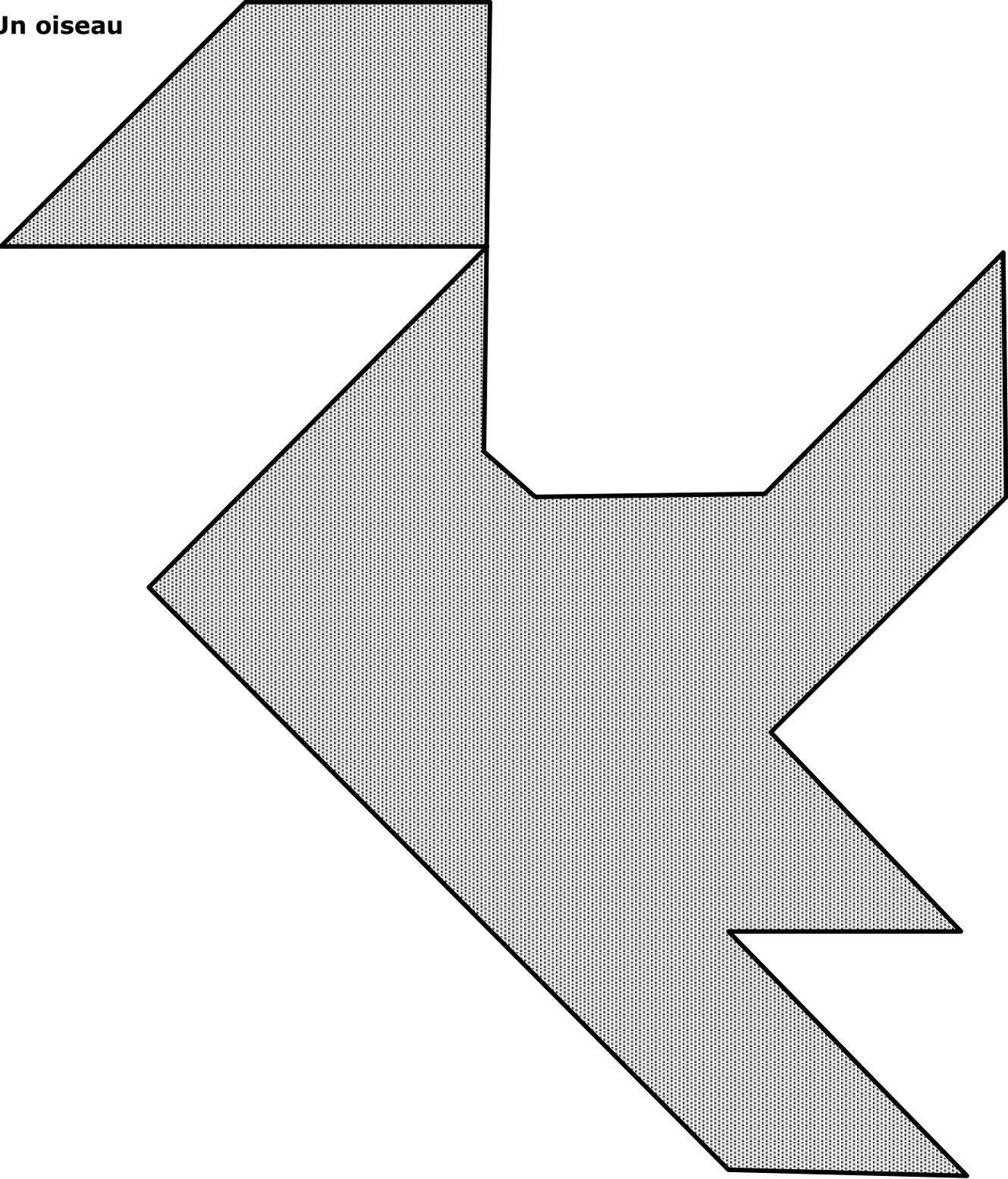
La maison avec un chemin



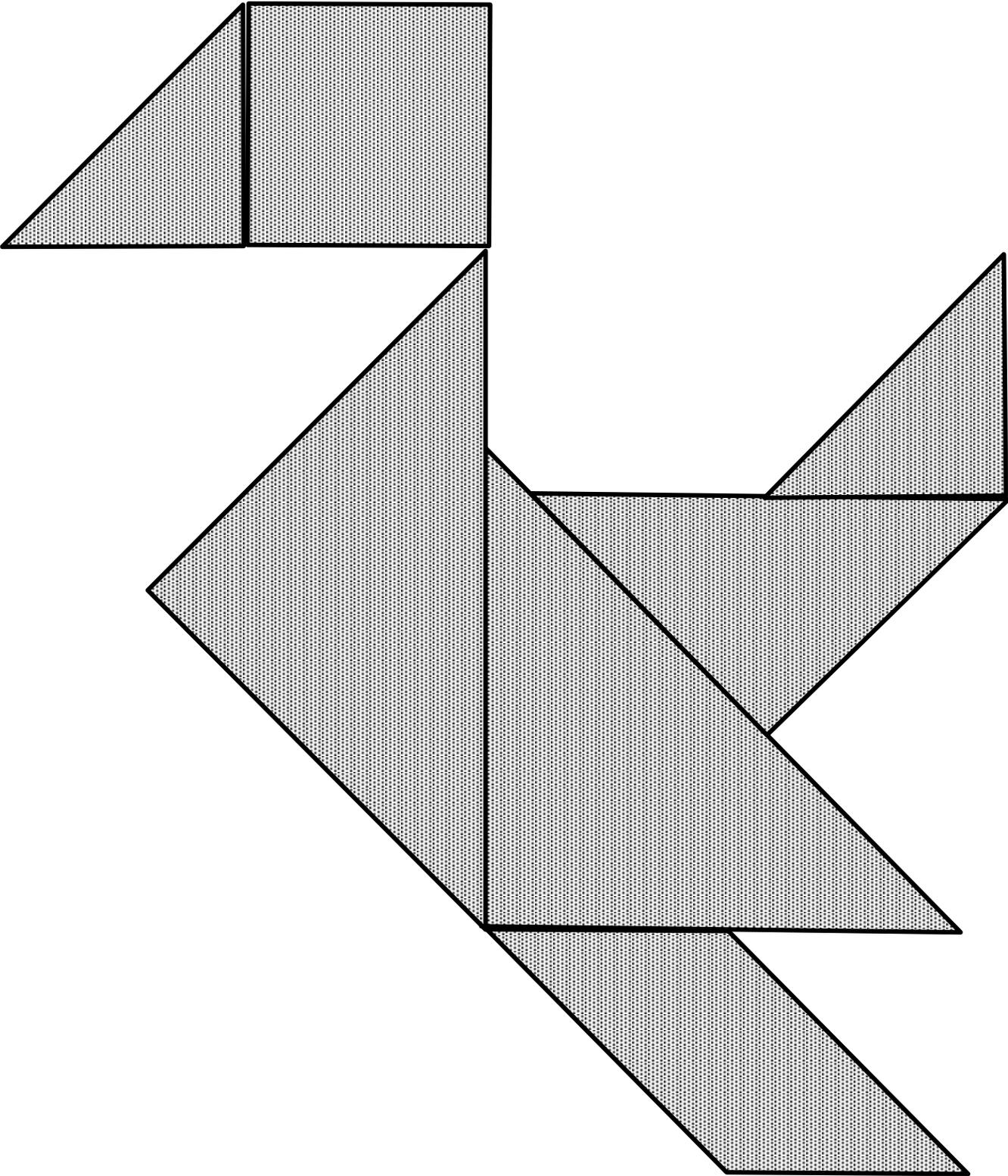
La maison avec un chemin



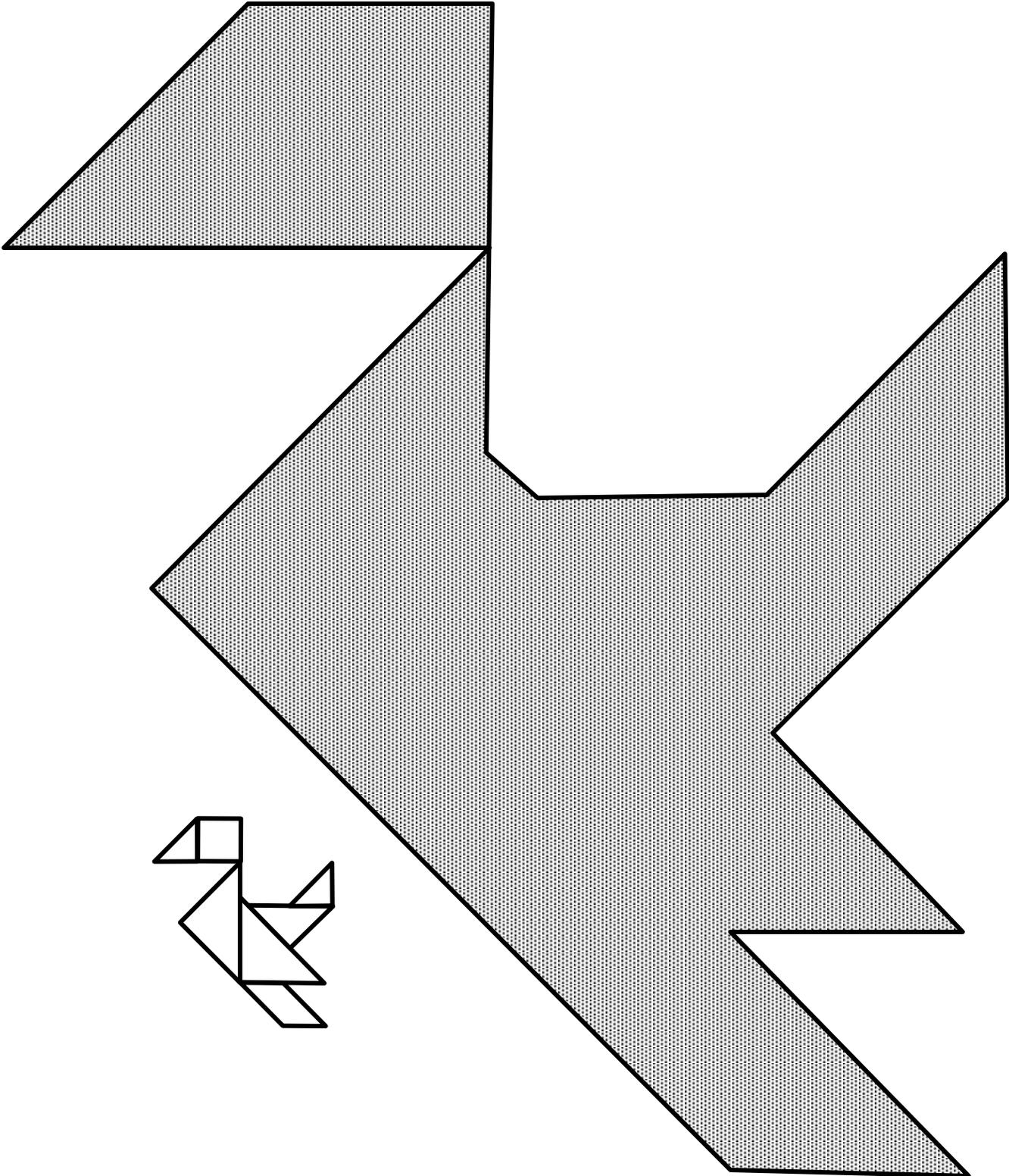
Un oiseau



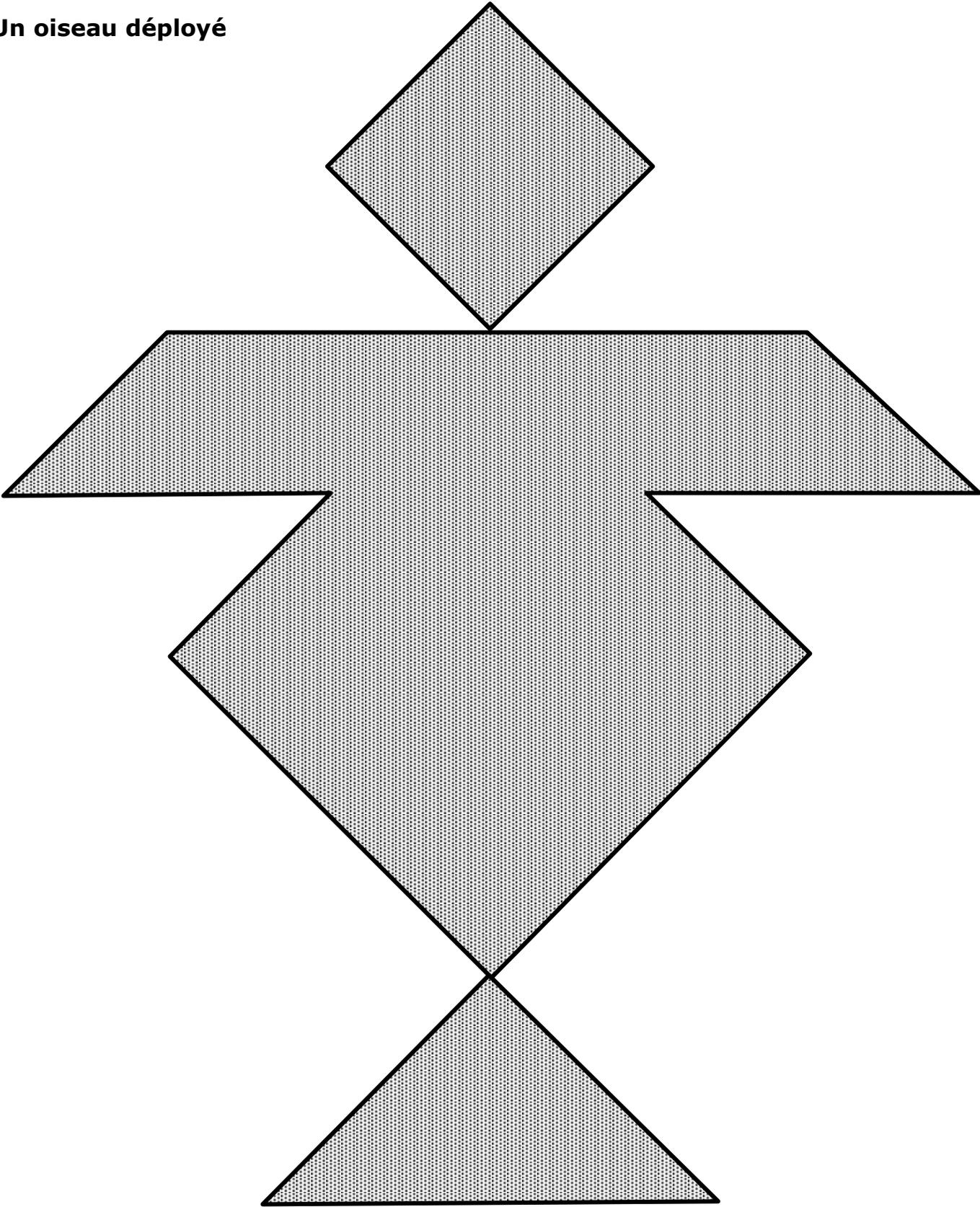
Un oiseau



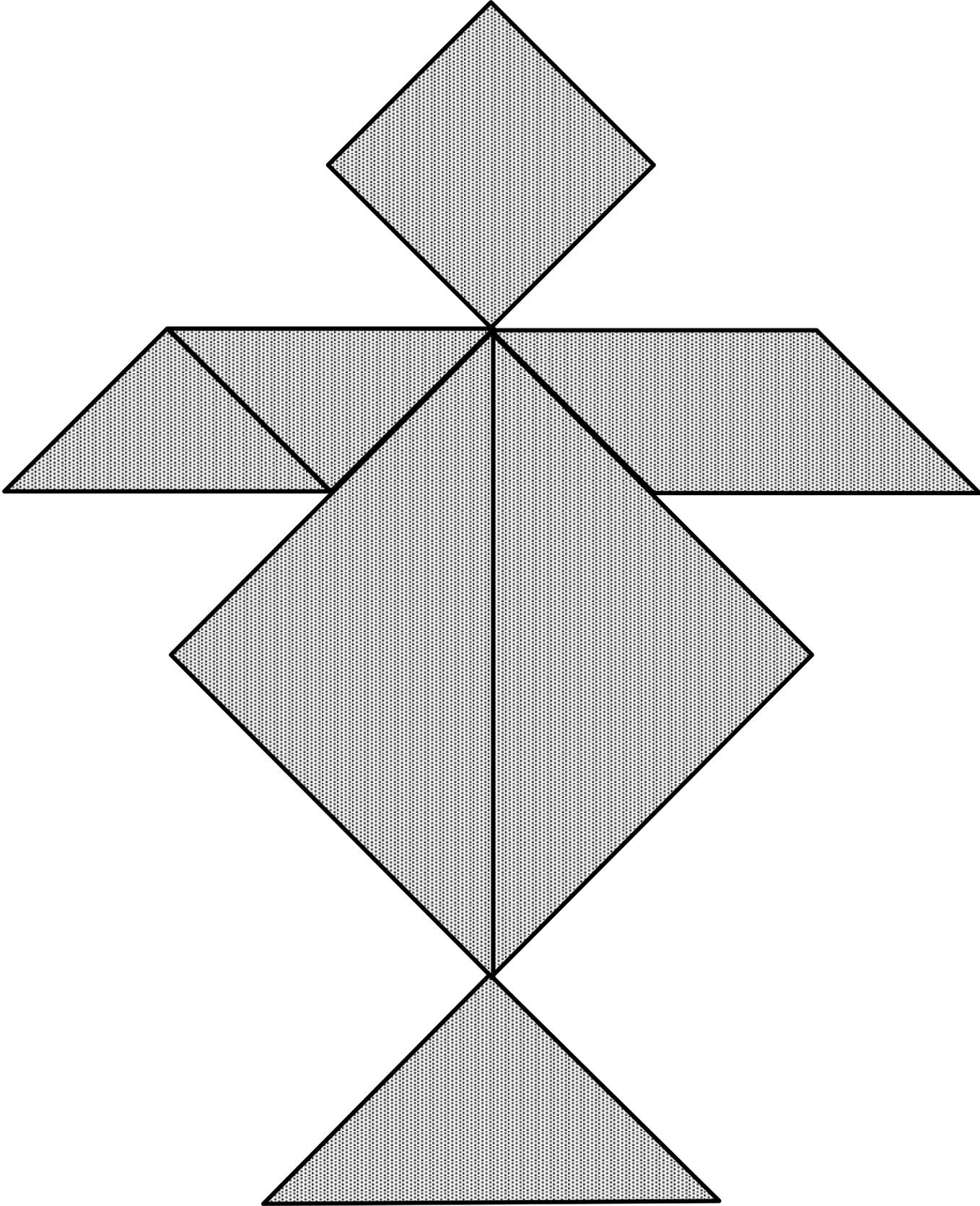
Un oiseau



Un oiseau déployé



Un oiseau déployé



Un oiseau déployé

