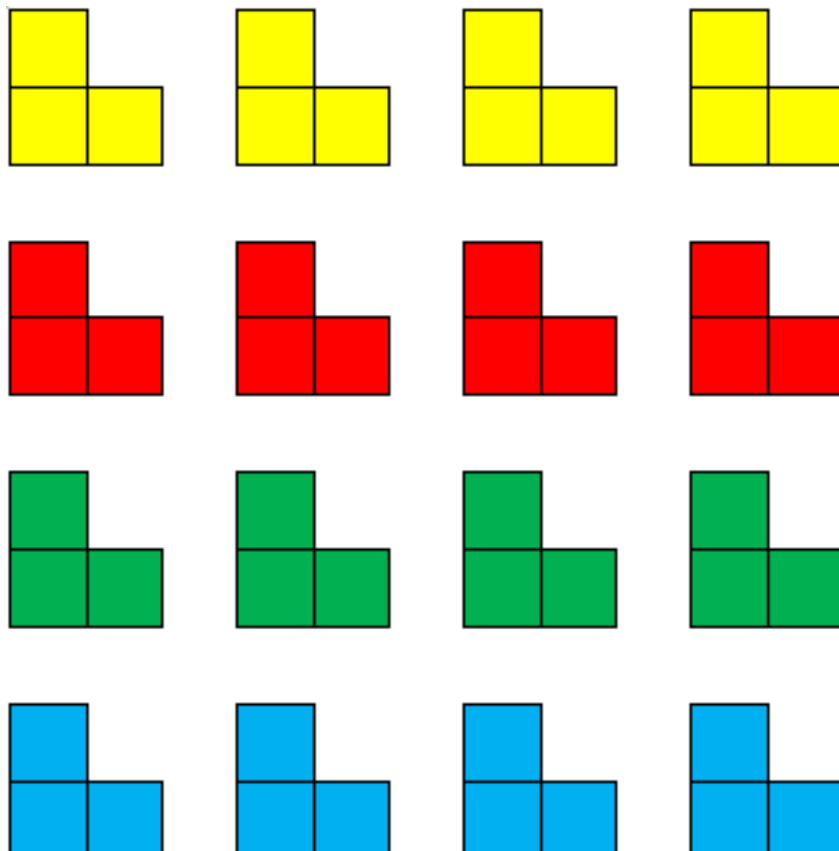
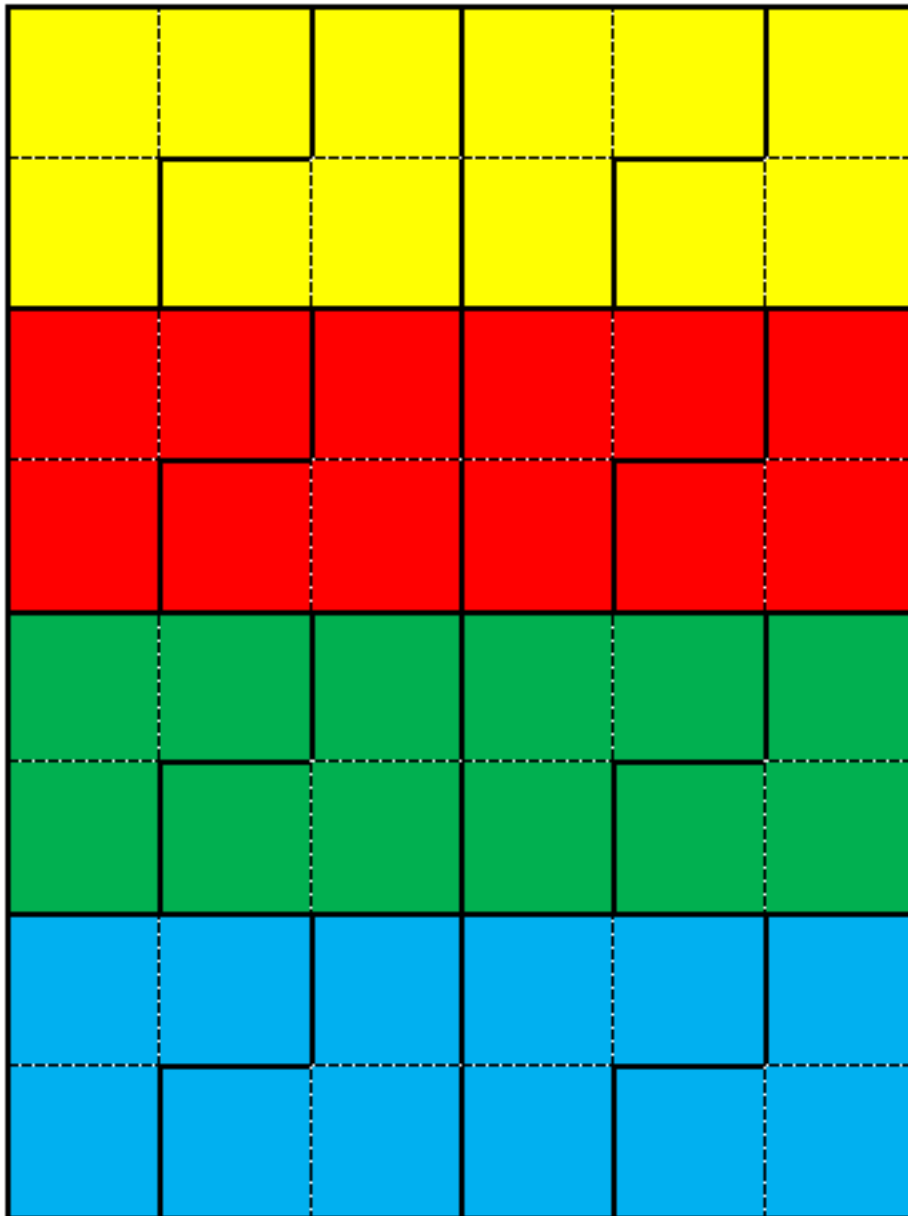


# AVEC 4x4 « PETITS L »



## 4x4 « PETITS L »

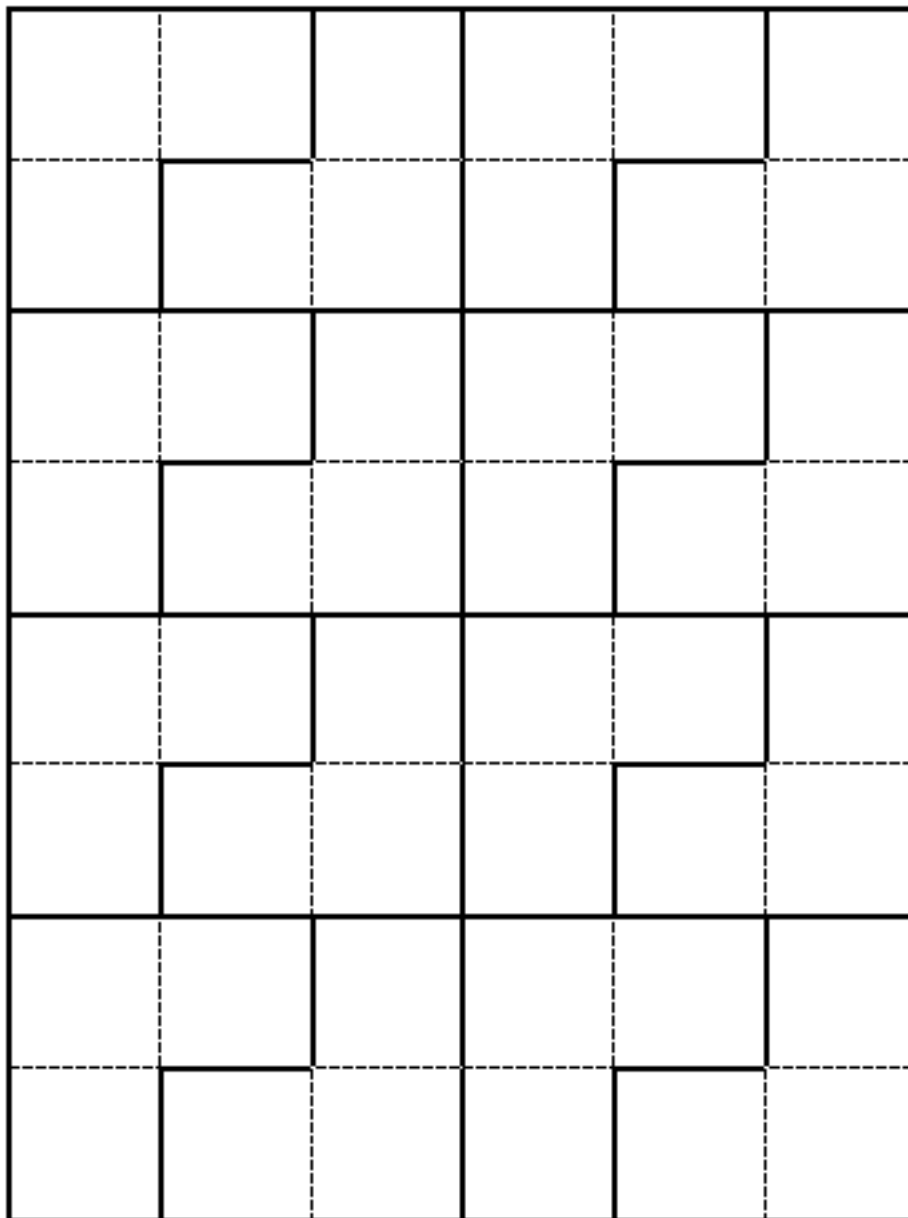
*Des pièces à dupliquer, coller sur du carton puis découper*



*Les pièces de même couleur ne peuvent pas se toucher, même par un sommet.*

## 4x4 « PETITS L »

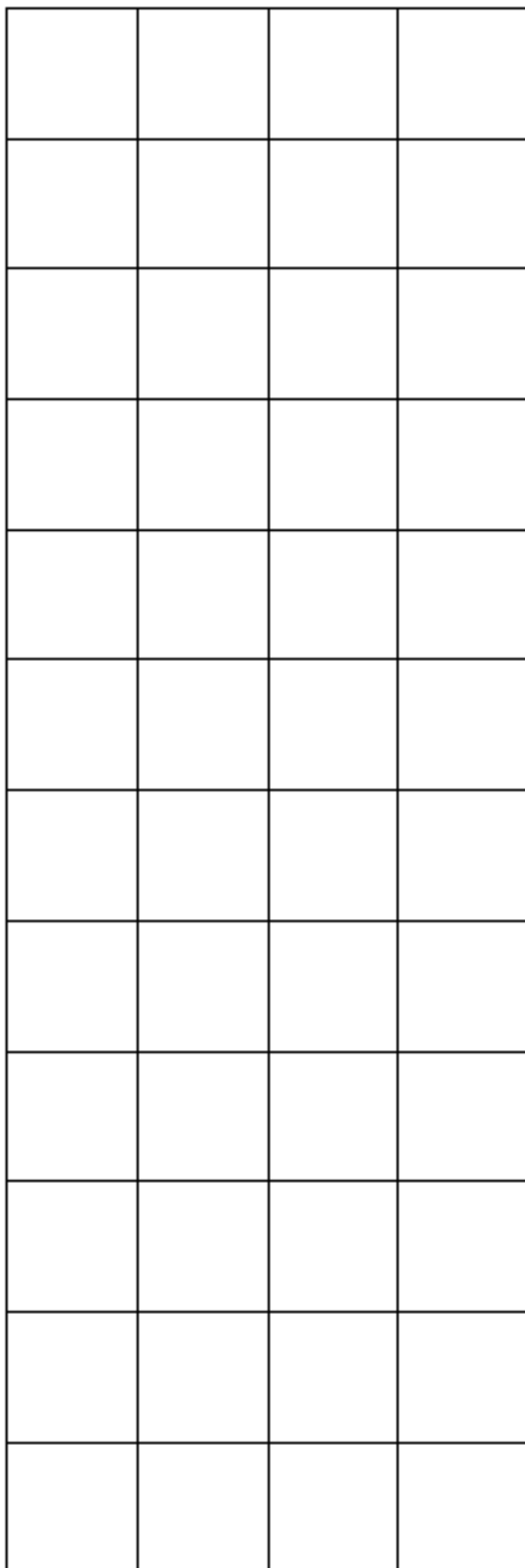
*Des dessins des pièces à dupliquer sur du papier de quatre couleurs différentes, coller sur du carton puis découper pour obtenir les pièces de quatre jeux*



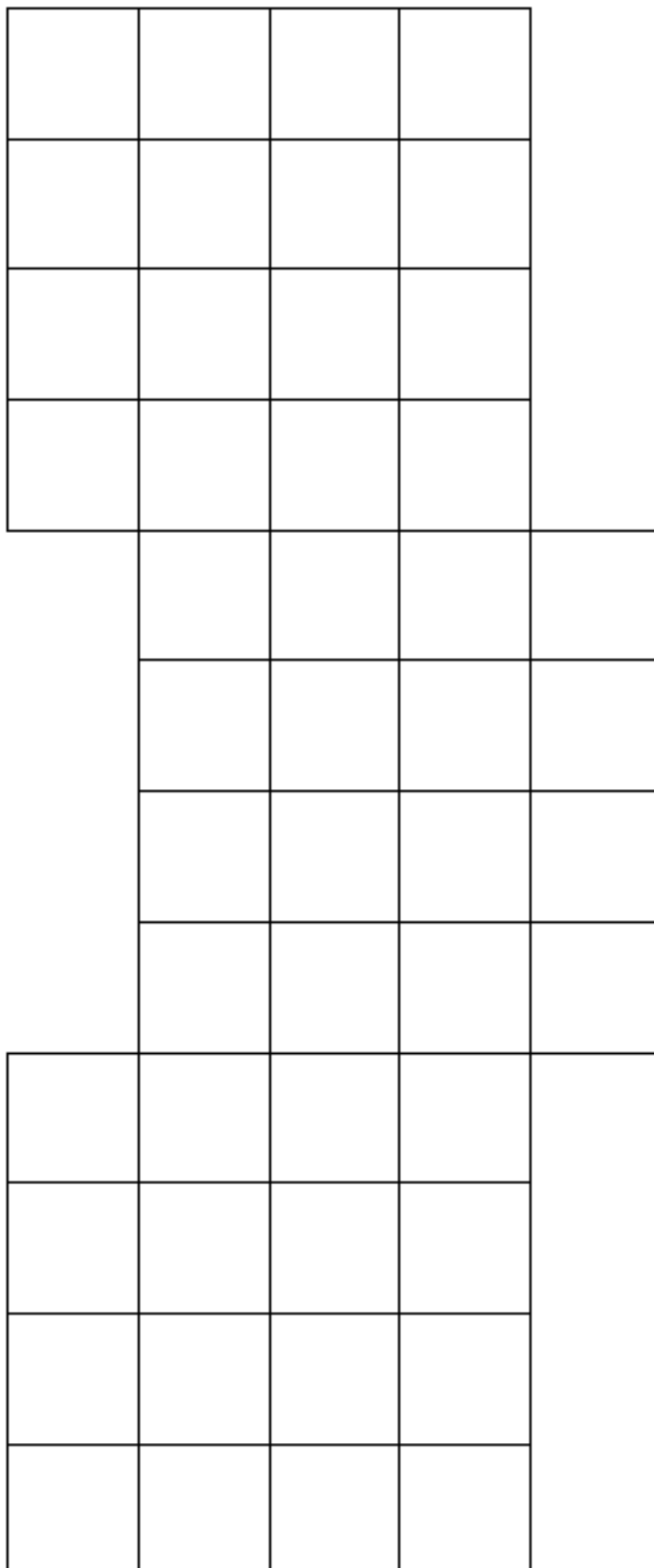
*Les pièces de même couleur ne peuvent pas se toucher, même par un sommet.*

*Pour économiser l'encre de nos imprimantes...*

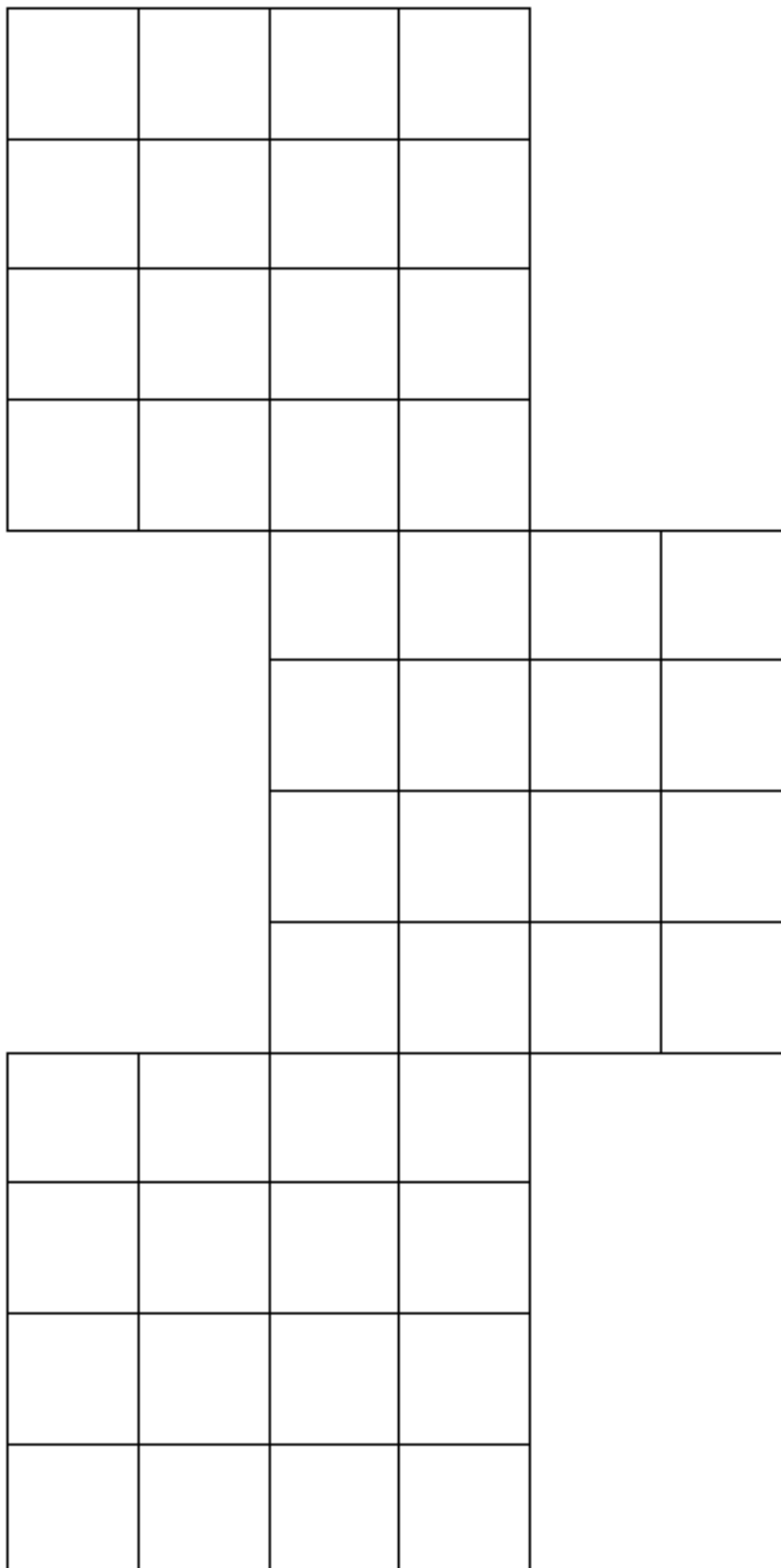
## Assemblages de 3 carrés 4x4 (1)



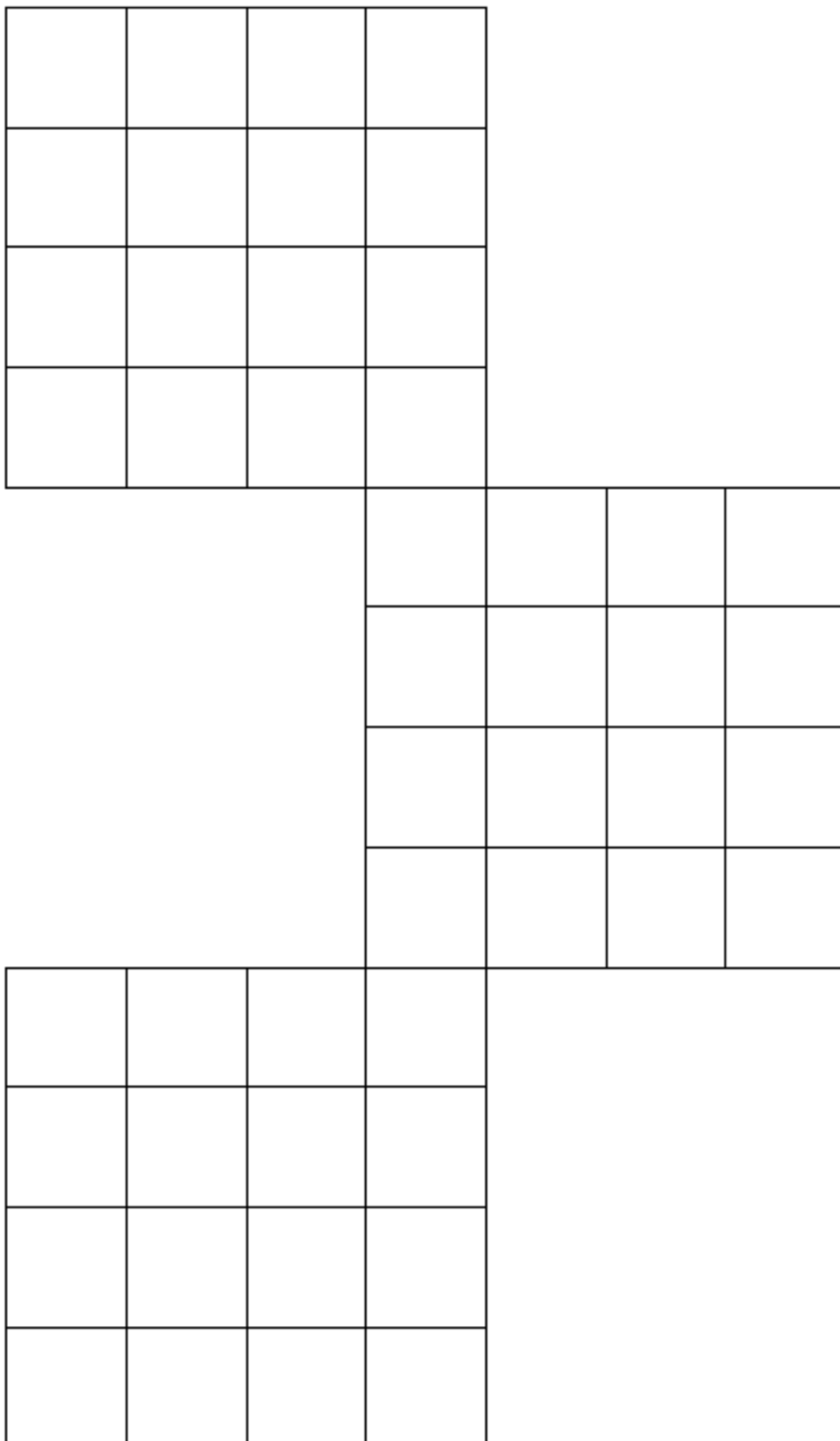
## Assemblages de 3 carrés 4x4 (2)



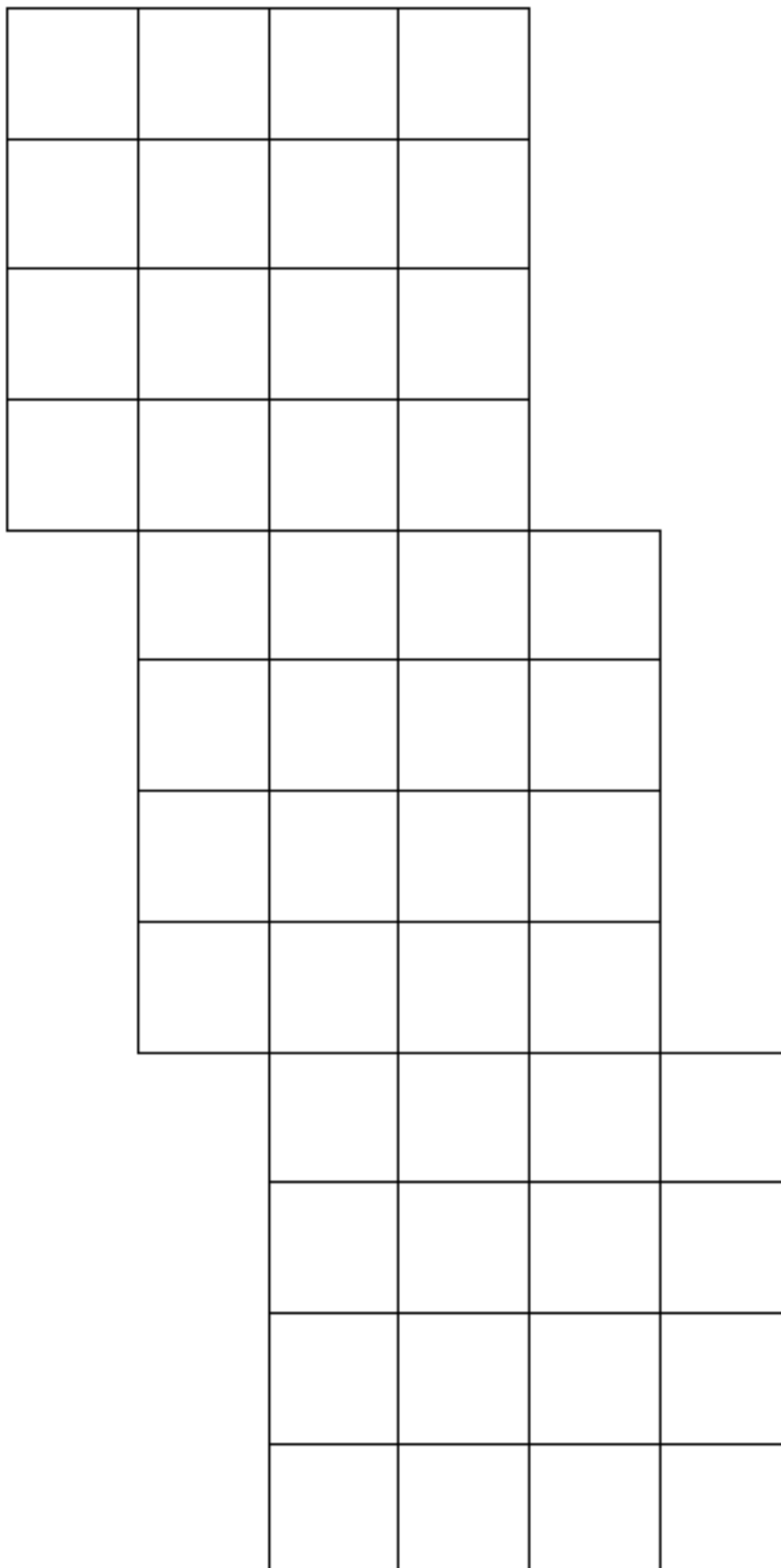
## Assemblages de 3 carrés 4x4 (3)



## Assemblages de 3 carrés 4x4 (4)

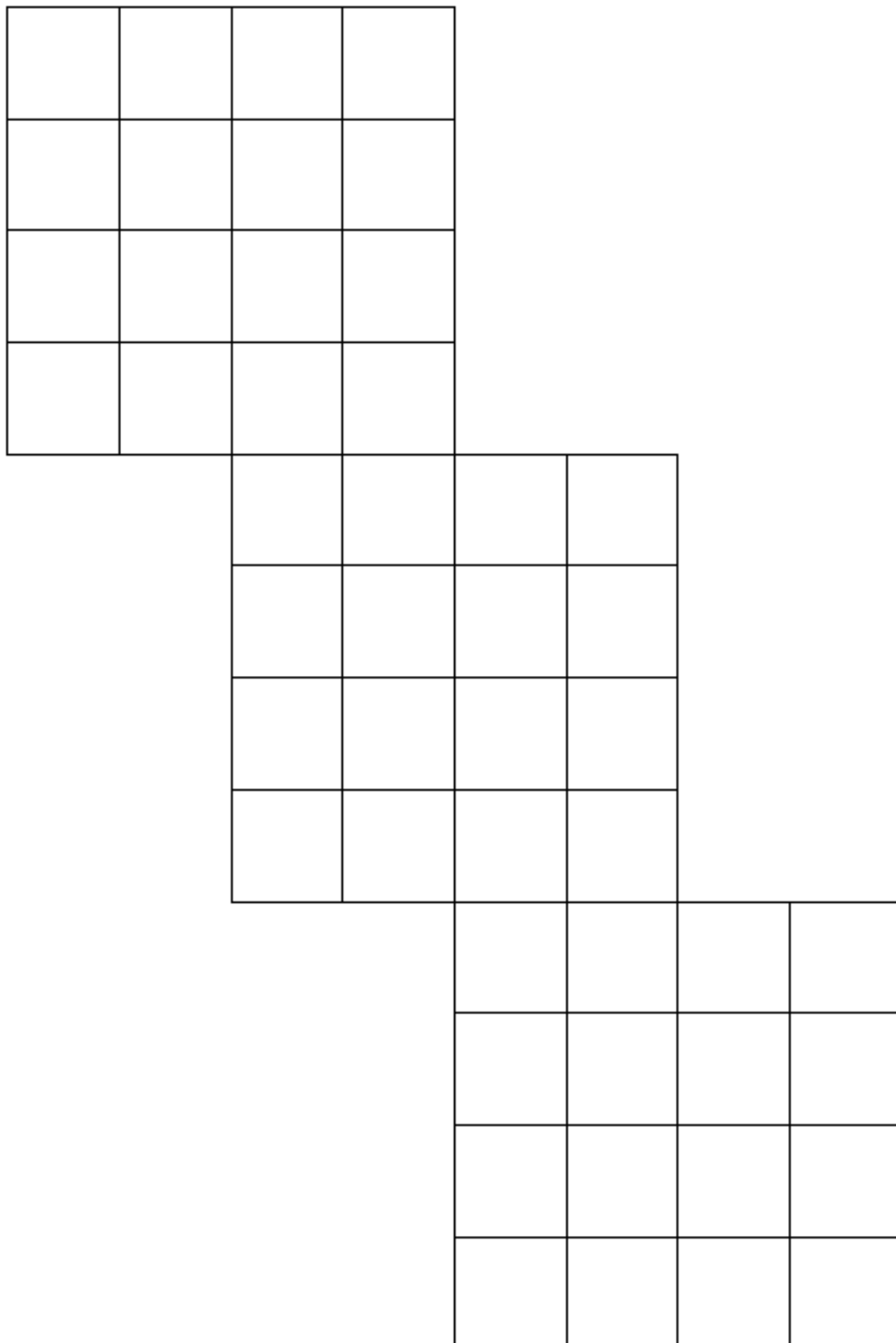


## Assemblages de 3 carrés 4x4 (5)

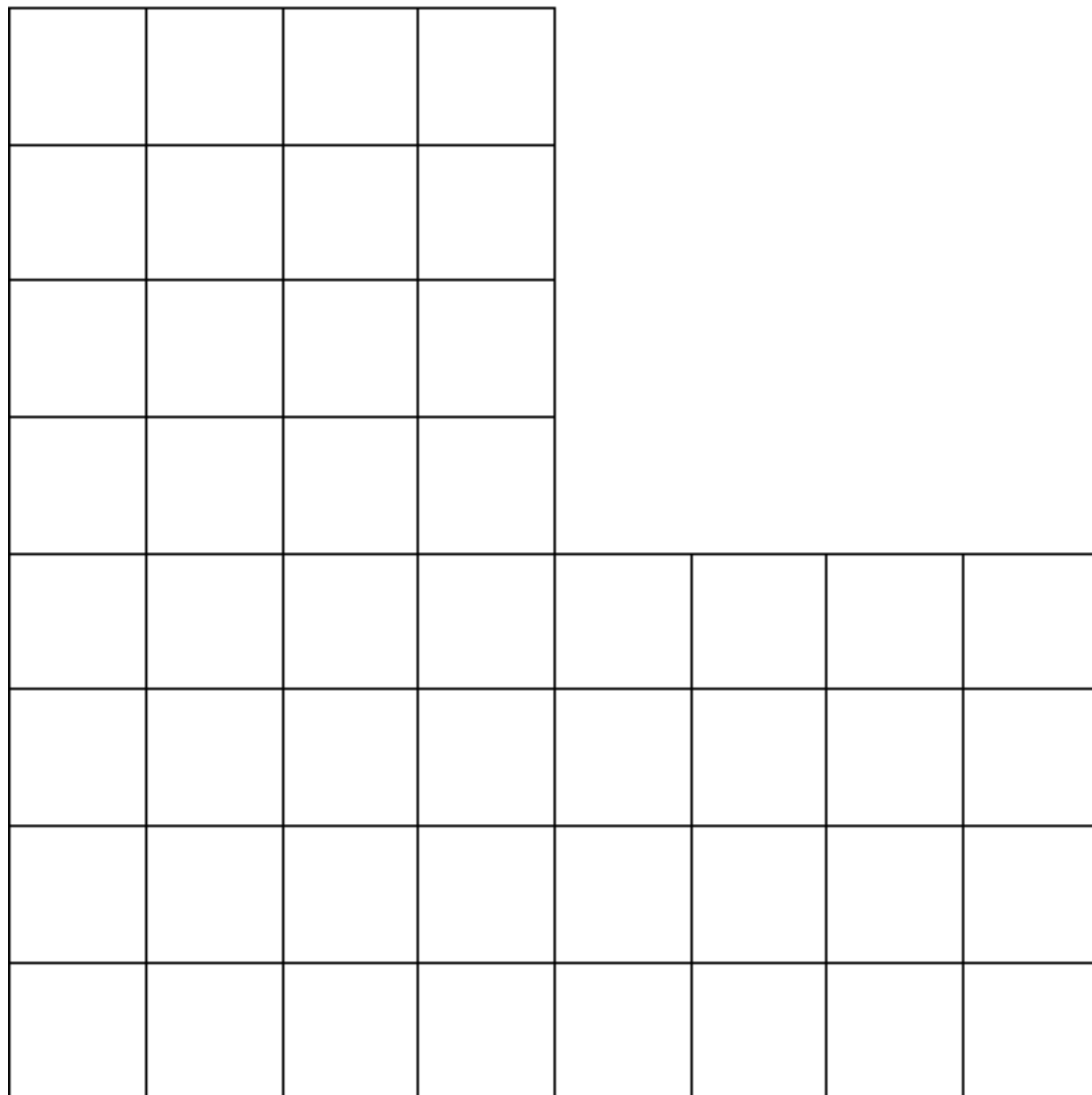




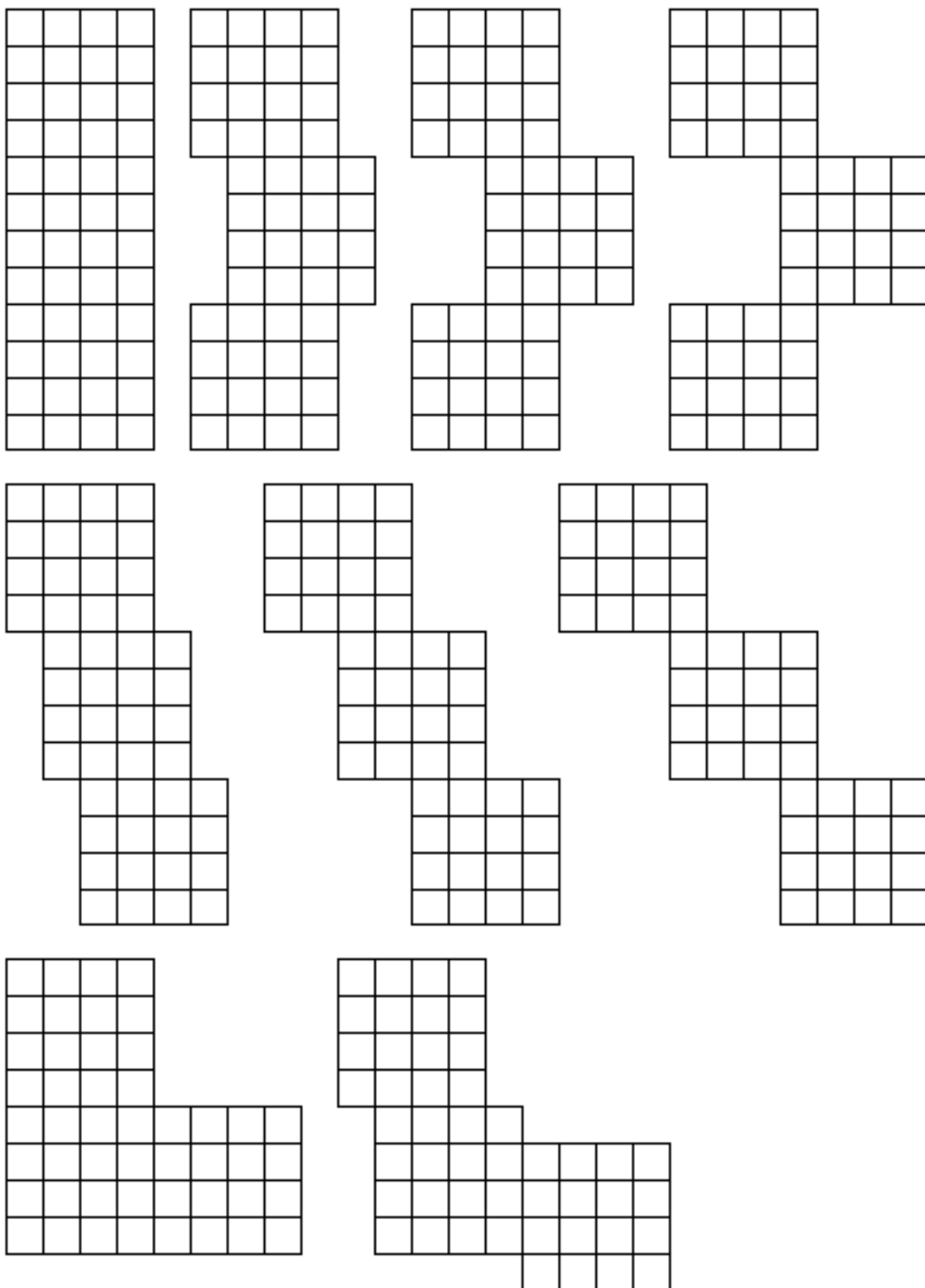
## Assemblages de 3 carrés 4x4 (6)



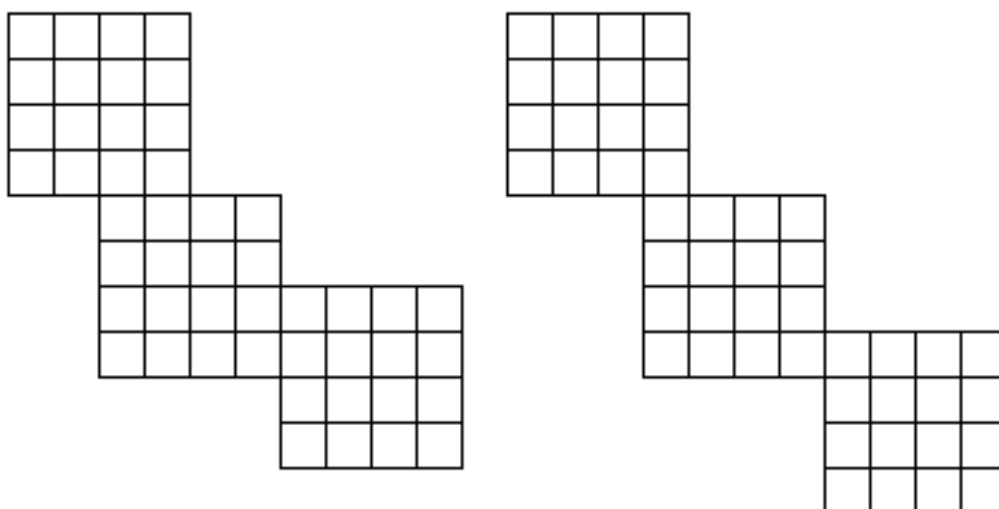
## Assemblages de 3 carrés 4x4 (6)



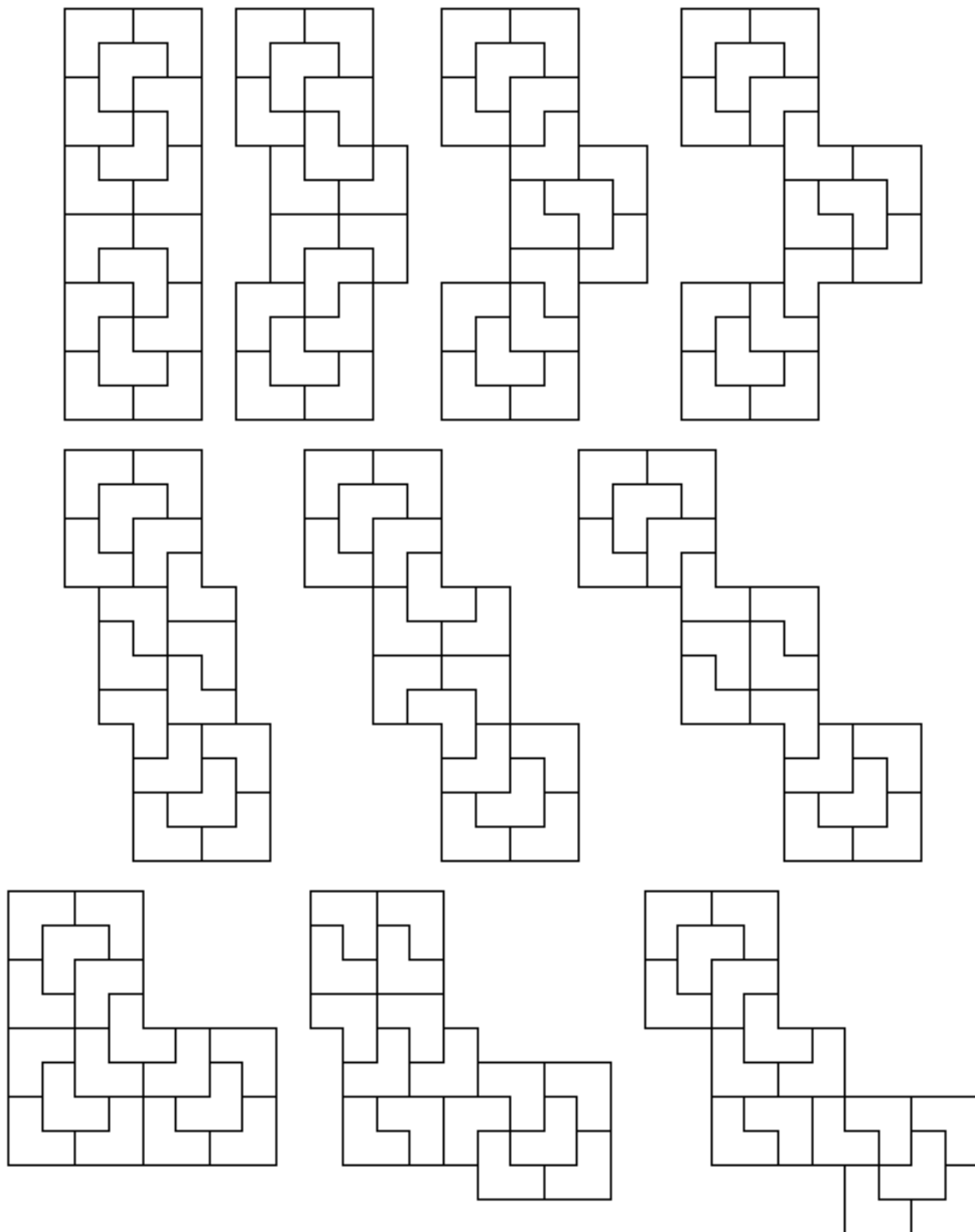
## Les assemblages symétriques à retrouver (1)



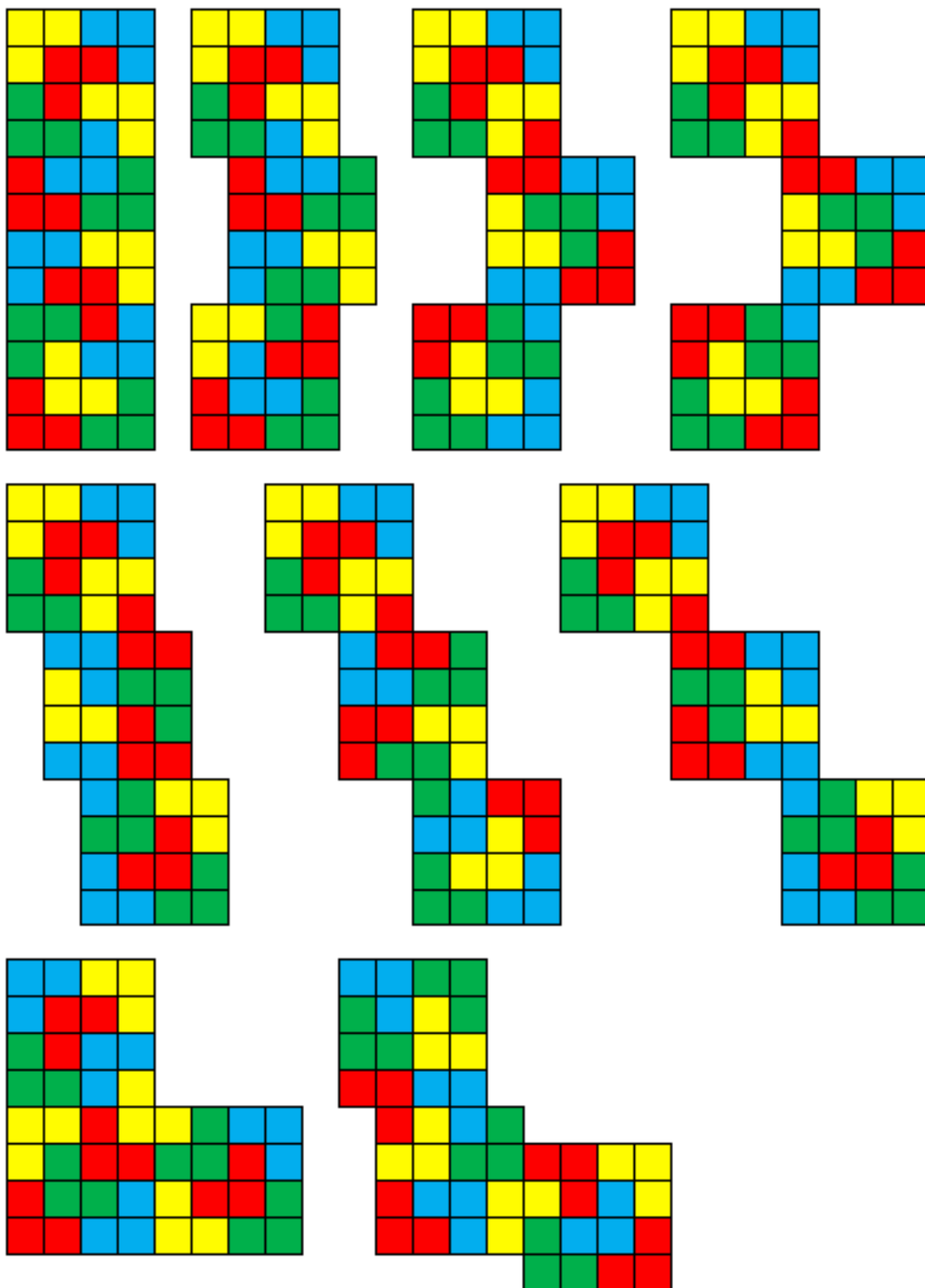
## Les assemblages à retrouver (2)



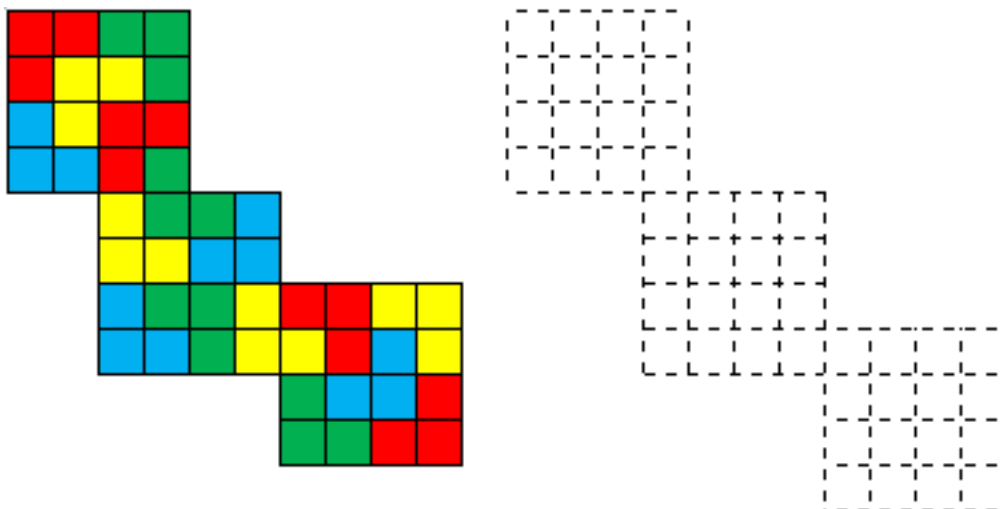
## Les recouvrements à colorier avec quatre pièces de chaque couleur



## Les recouvrements trouvés (1)



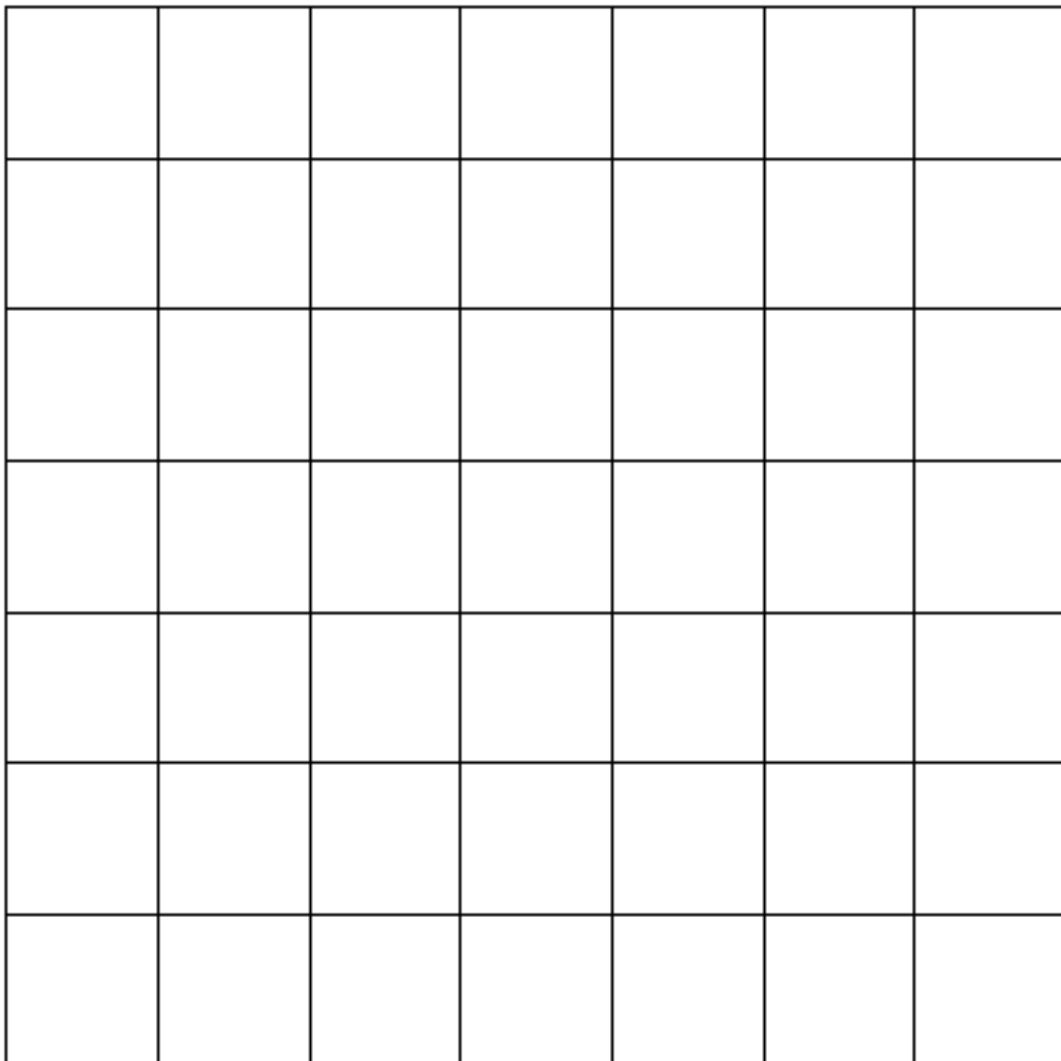
## Les recouvrements trouvés (2)



$$48 = 7 \times 7 - 1$$

« Noircis » une case du carré puis recouvre les 48 cases restantes par quatre « Petits L » de quatre couleurs différentes.

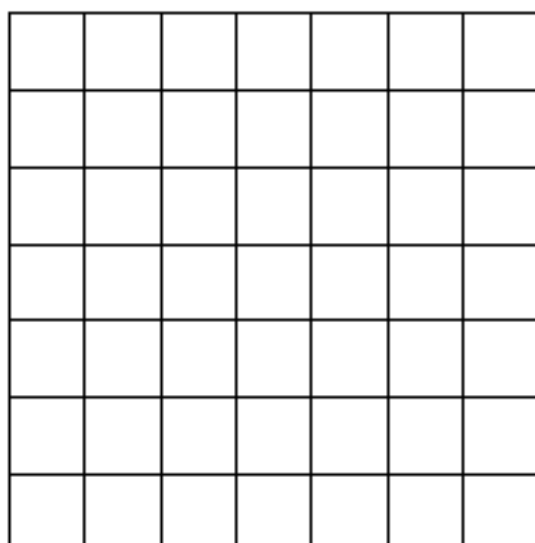
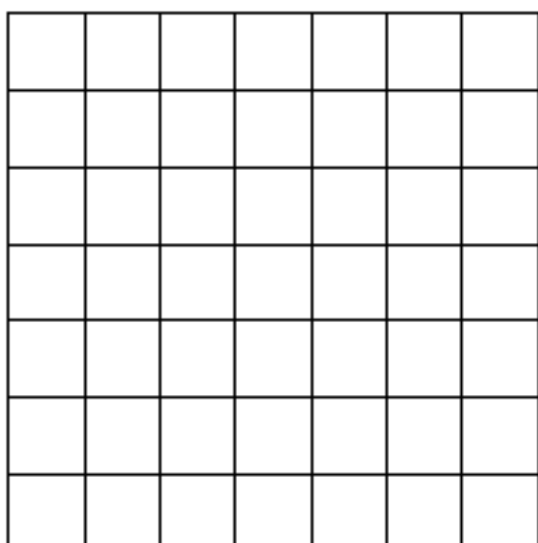
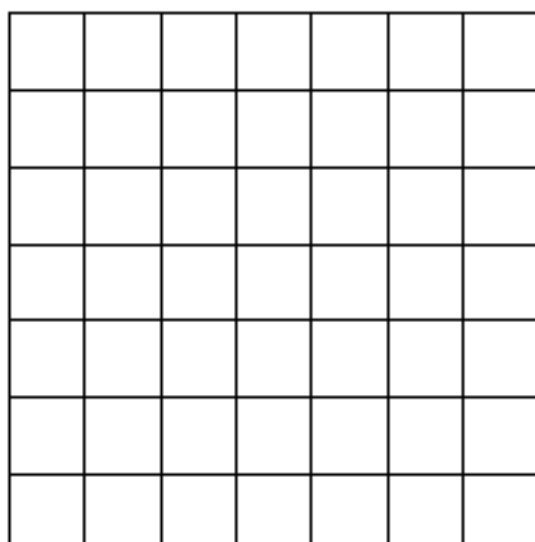
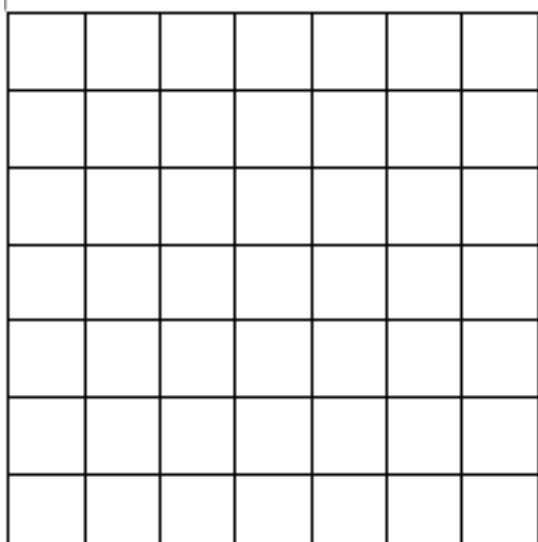
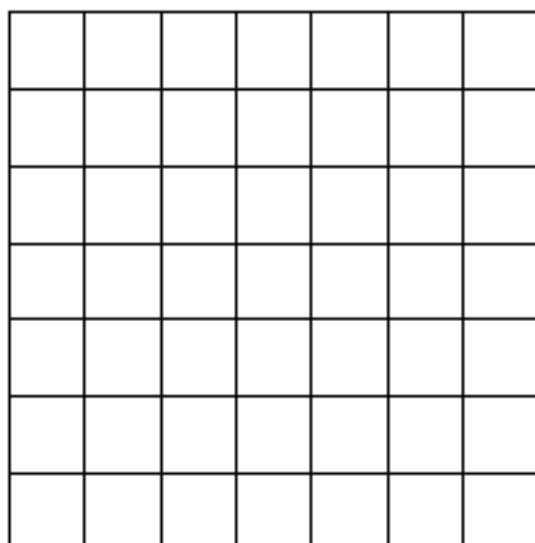
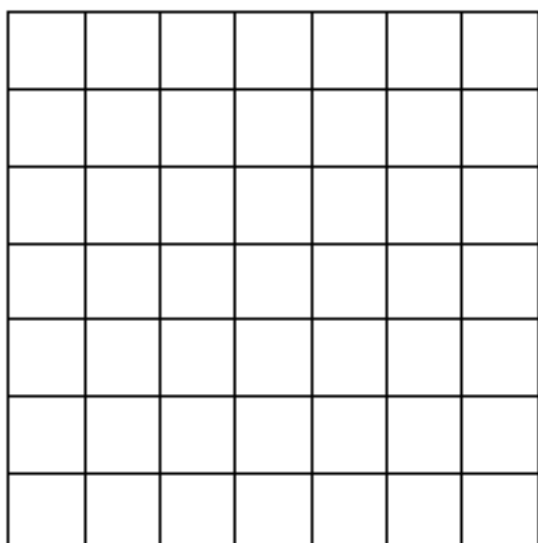
Les pièces de même couleur ne peuvent pas se toucher, même par un sommet.



*Un pion pourra être utilisé pour recouvrir la case choisie.*

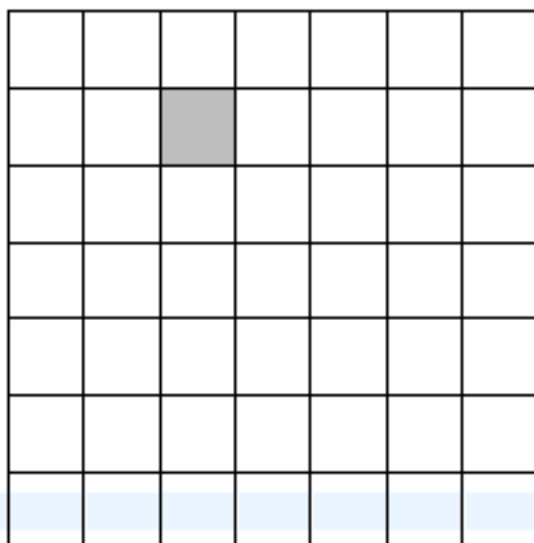
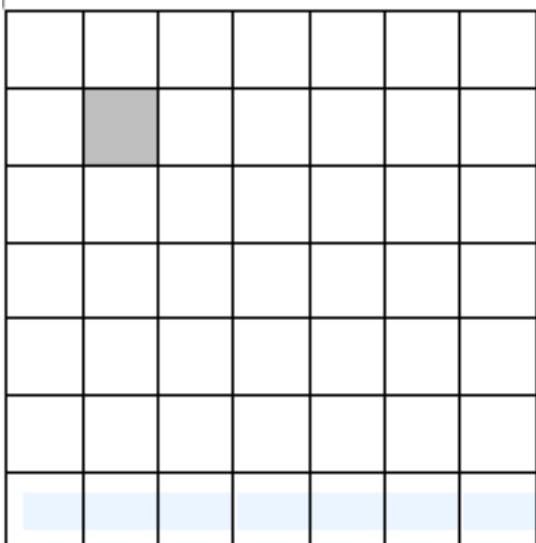
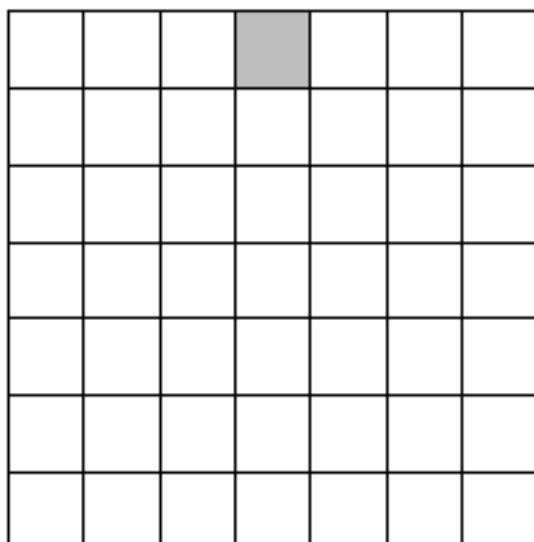
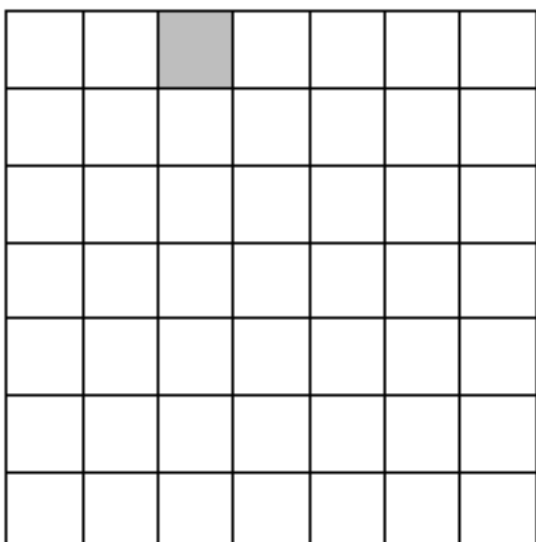
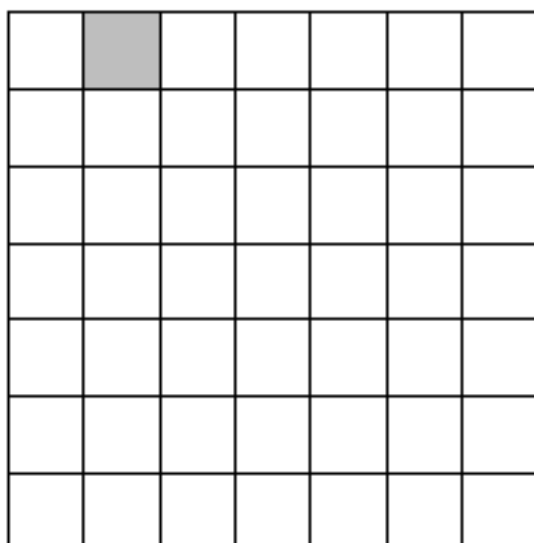
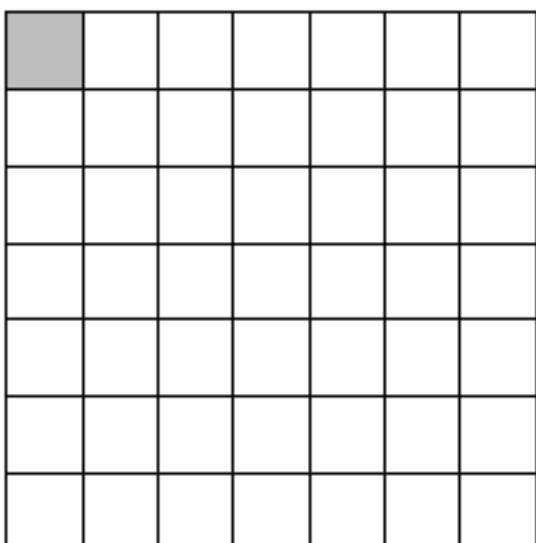


## Pour la recherche des positions de la case non recouverte par les « Petits L »

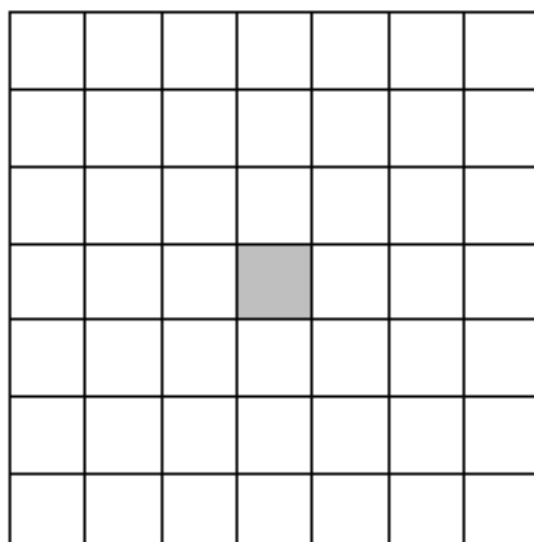
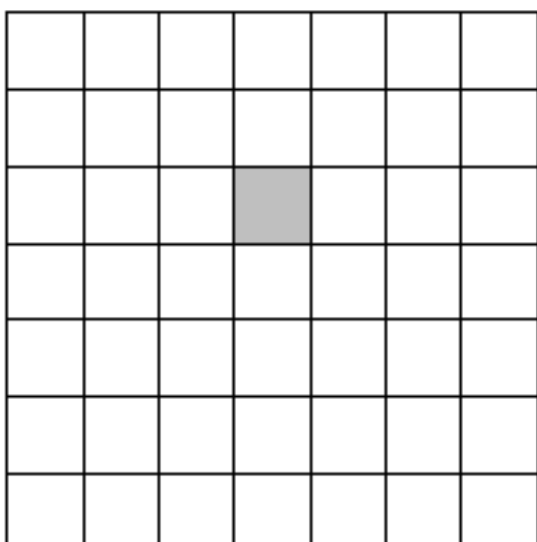
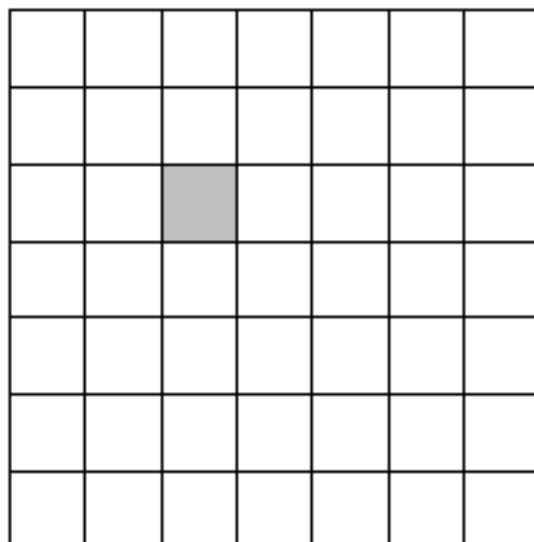
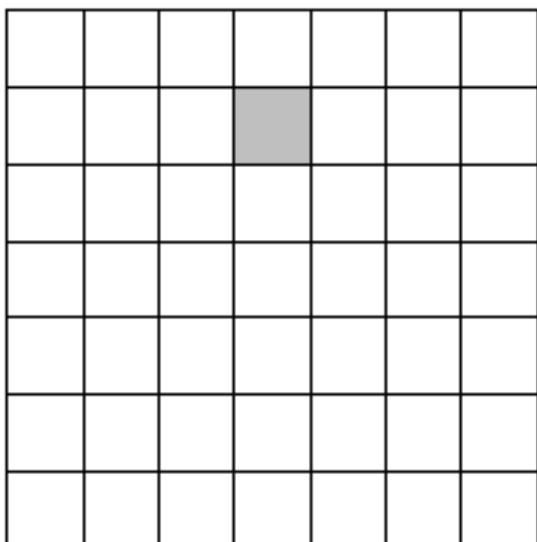


*Document à dupliquer en plusieurs exemplaires*

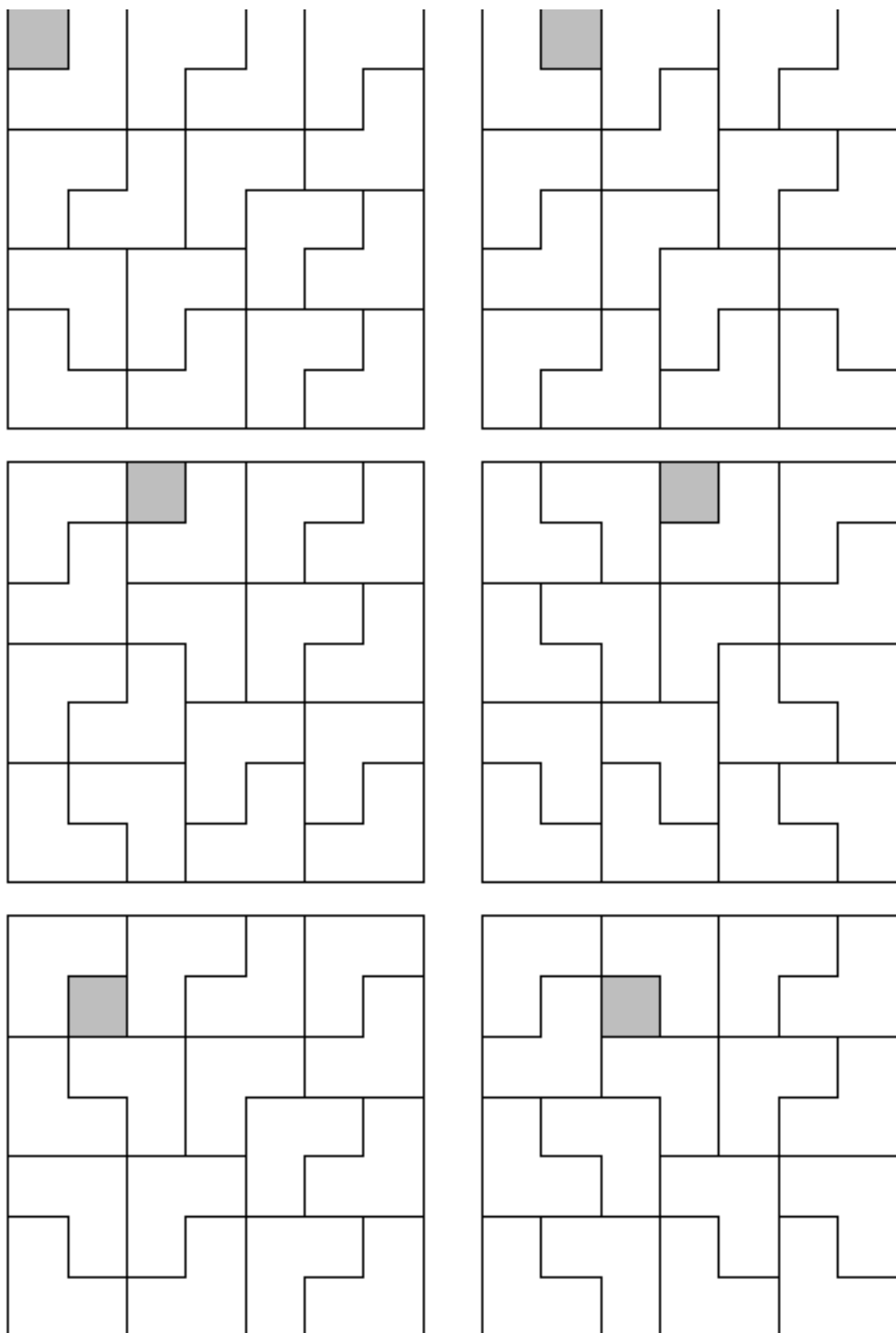
## Les positions de la case non recouverte par les « Petits L » (1)



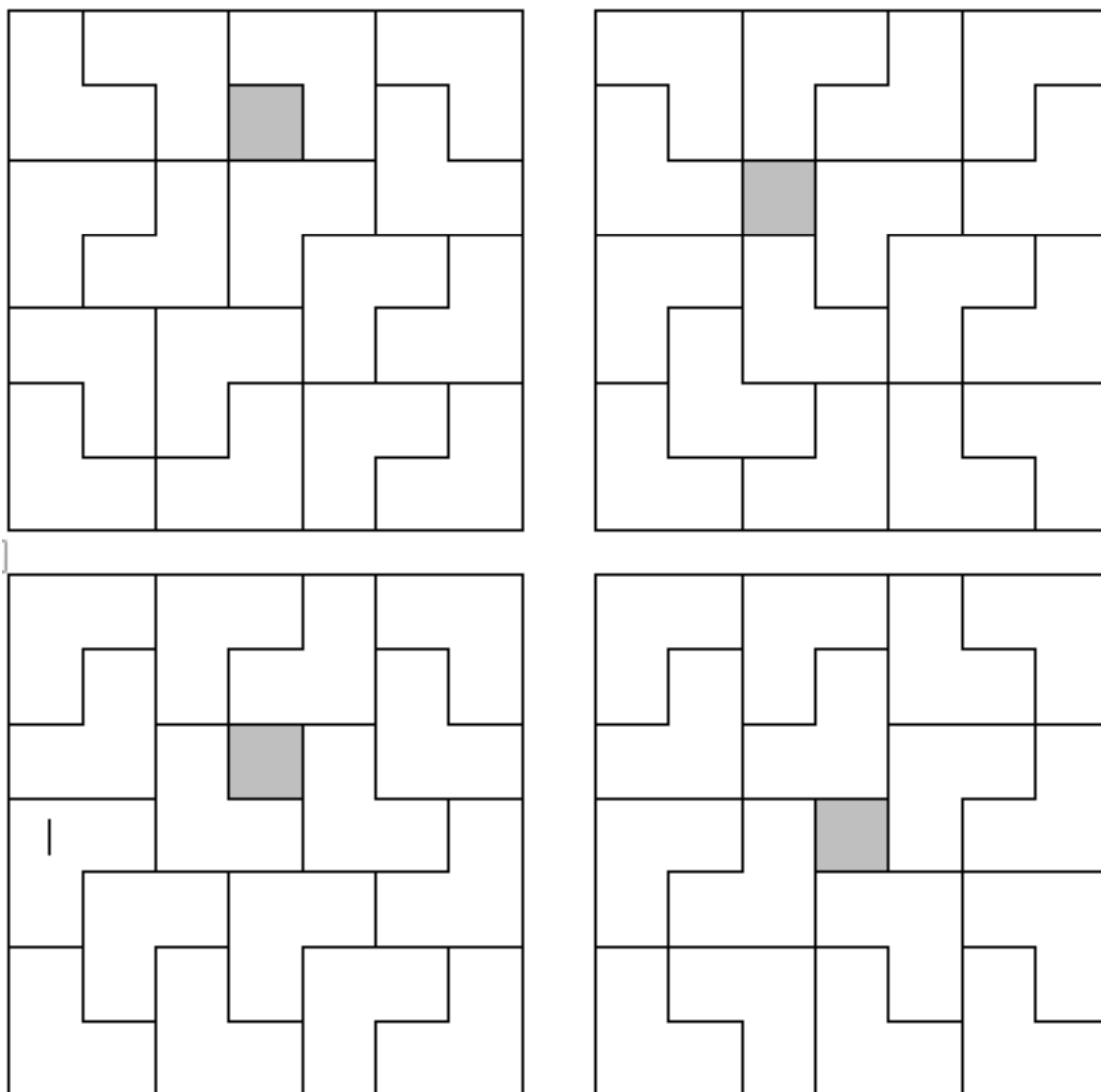
## Les positions de la case non recouverte par les « Petits L » (2)



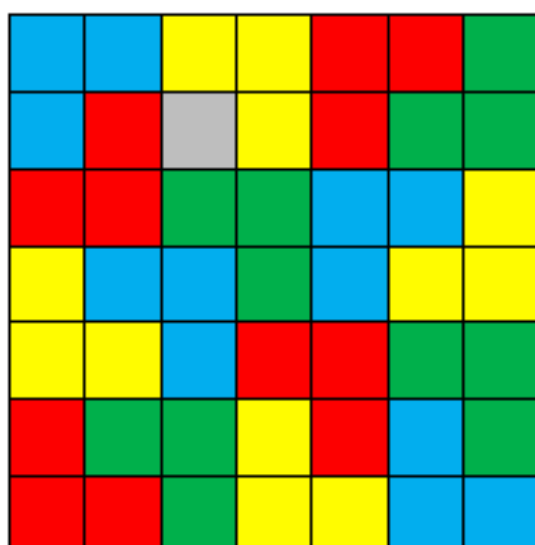
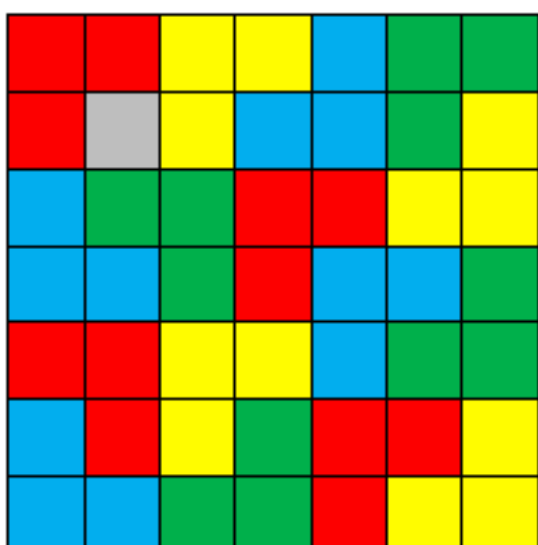
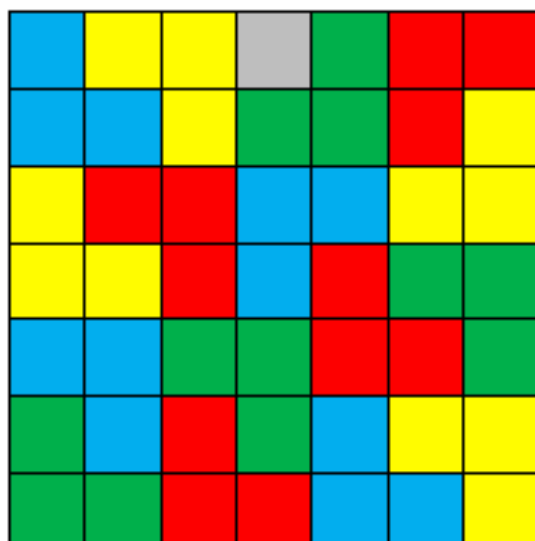
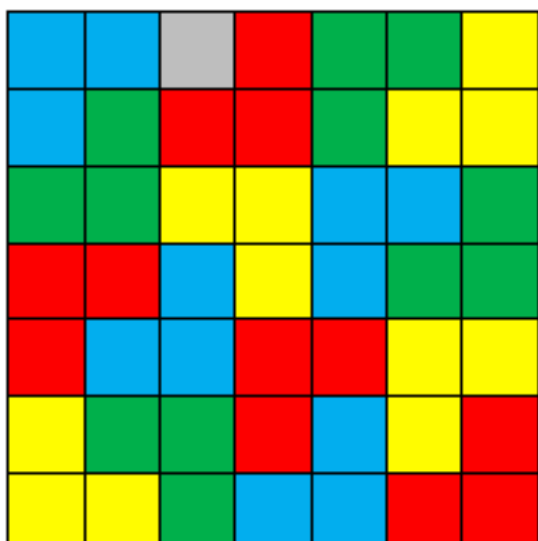
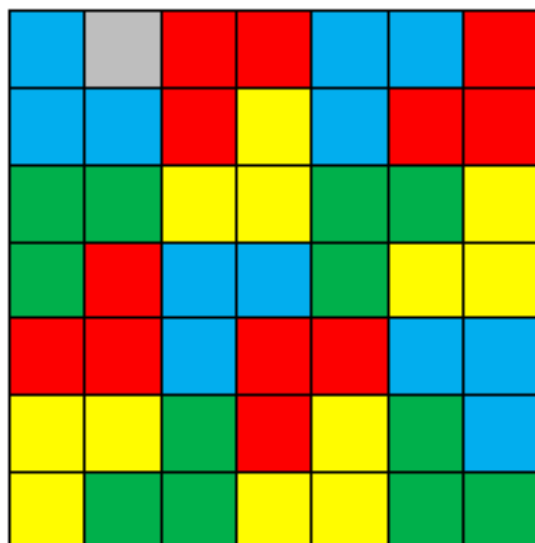
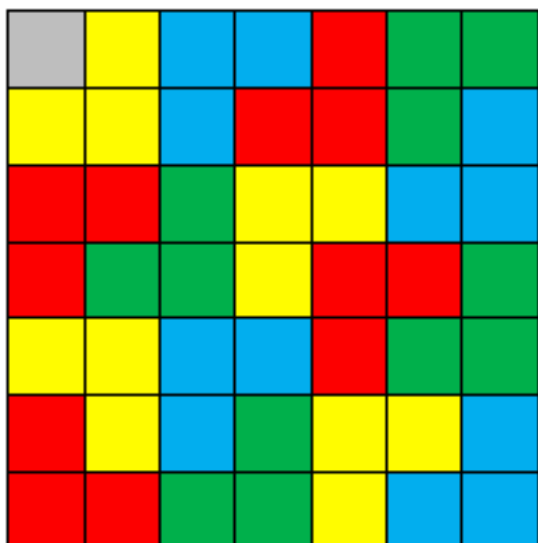
**Pour colorier les « Petits L » placés sur les 48 cases restantes (1)**



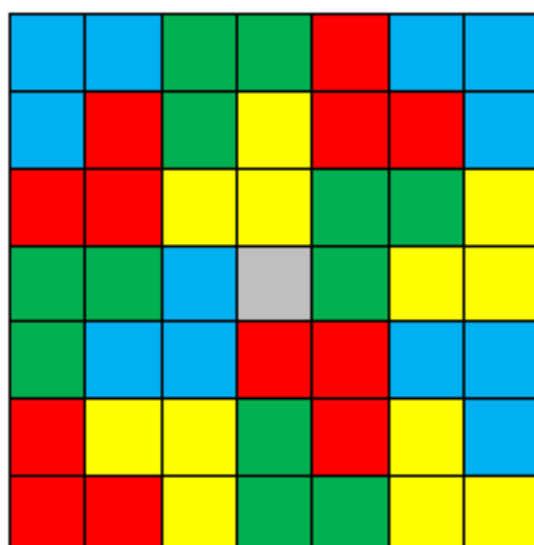
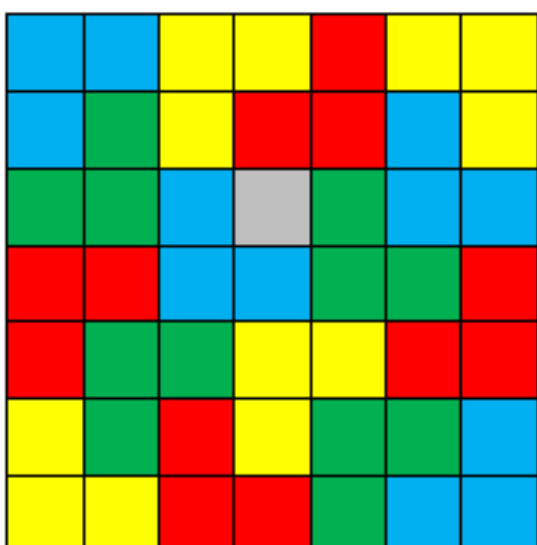
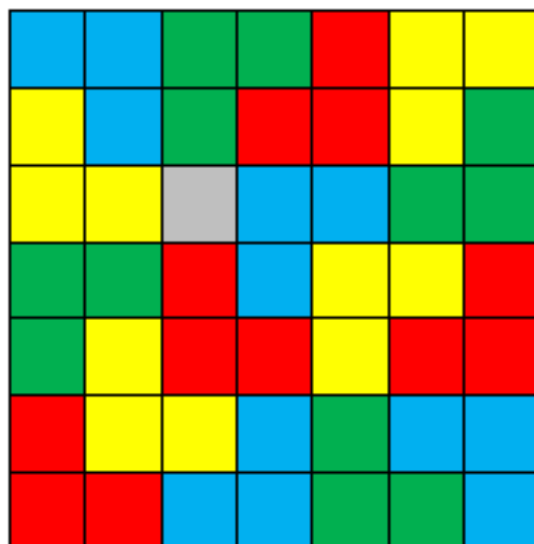
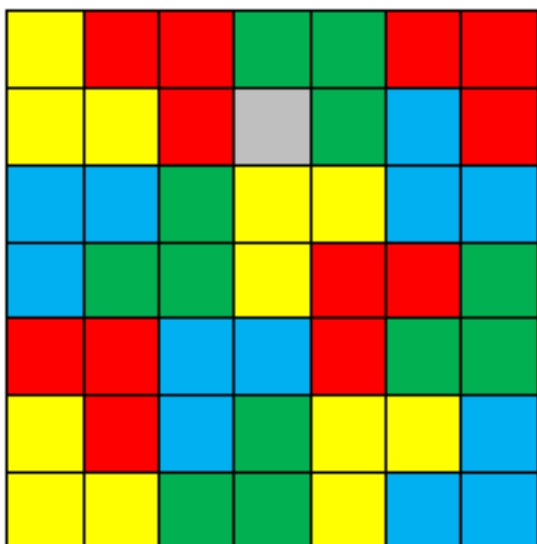
**Pour colorier les « Petits L » placés sur les 48 cases restantes (2)**



## Les recouvrements des 48 cases restantes (symétrie centrale) 1

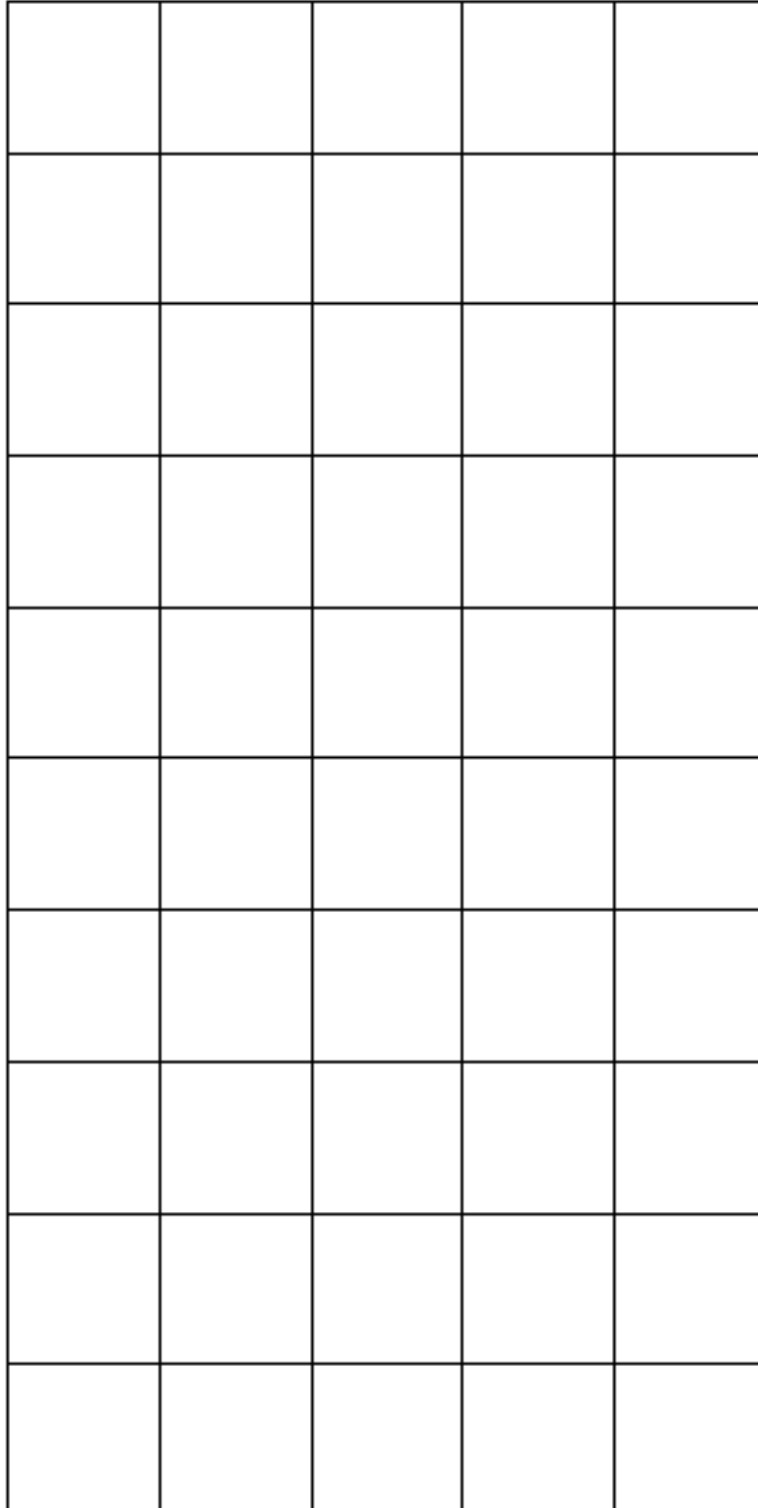


## Les recouvrements des 48 cases restantes (symétrie centrale) 2



$$48 = 5 \times 10 - 2$$

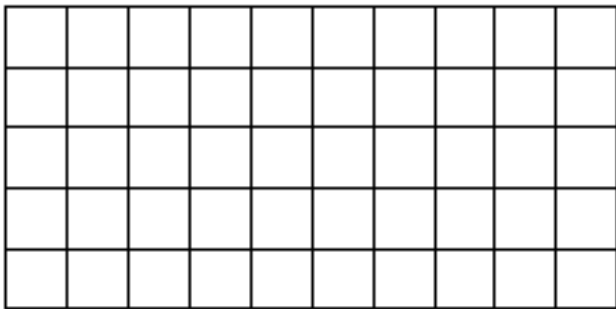
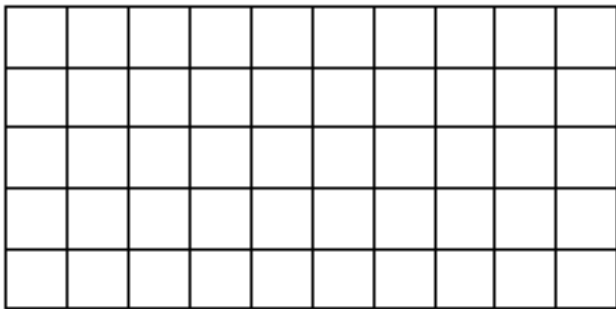
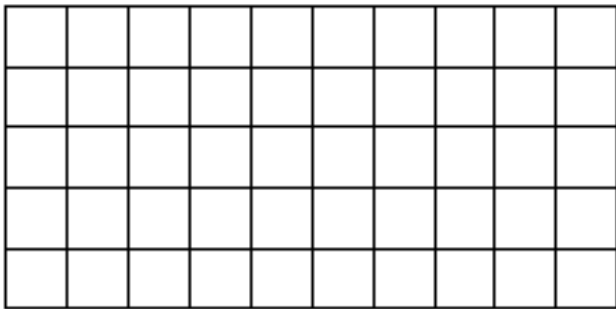
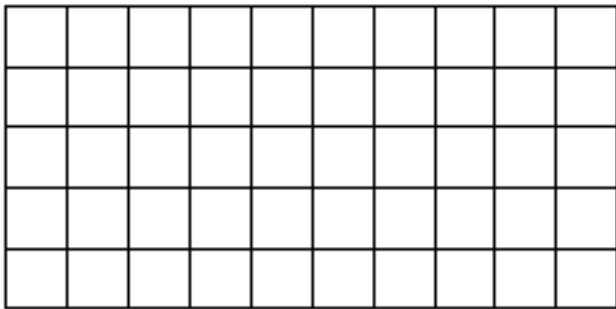
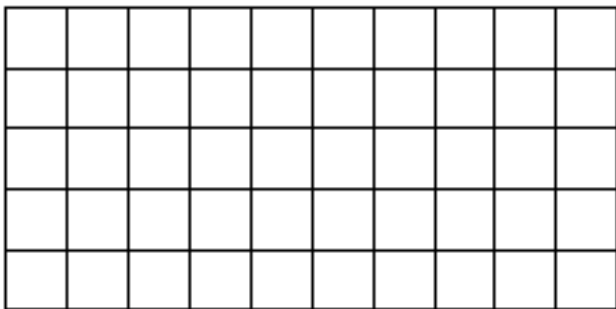
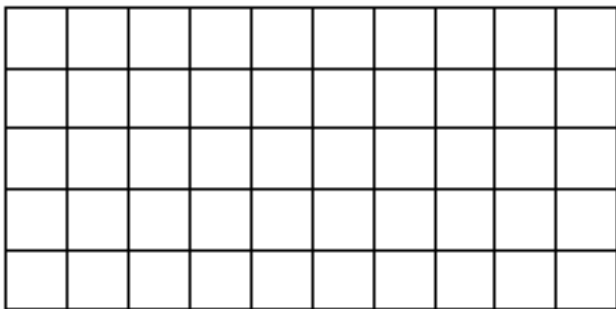
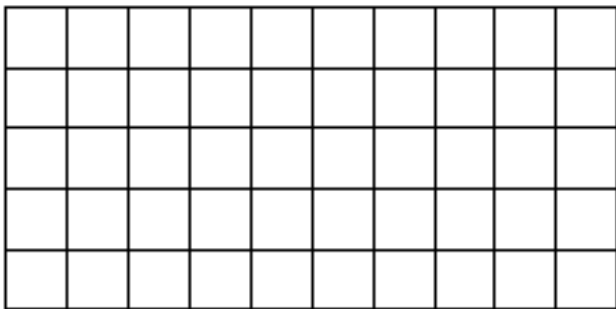
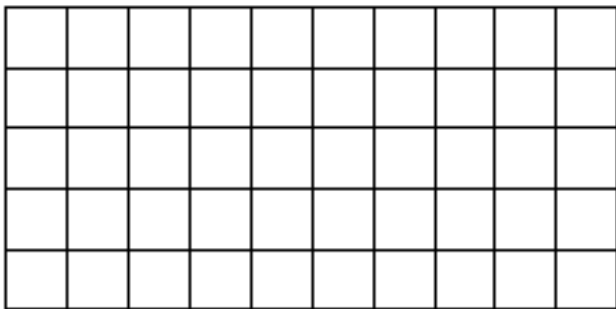
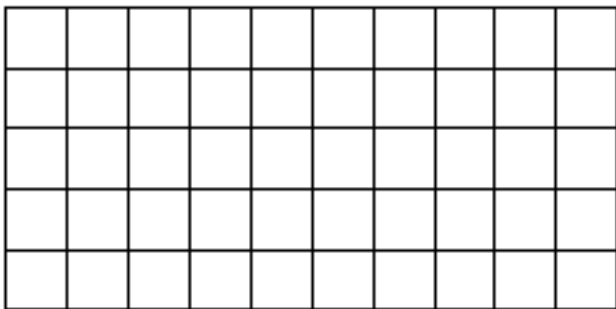
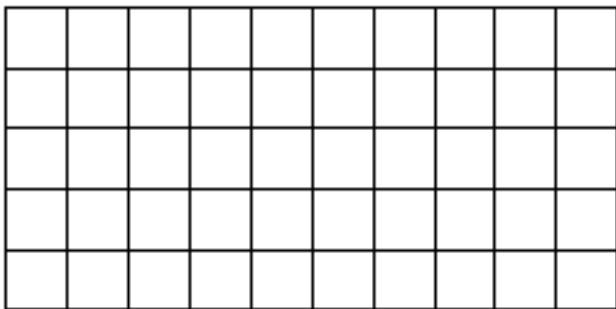
« Noircis » deux cases symétriques puis recouvre les 48 cases restantes par quatre « Petits L » de quatre couleurs différentes. Les pièces de même couleur ne peuvent pas se toucher, même par un sommet.



*Symétries axiales et symétrie centrale peuvent être sollicitées.  
Deux pions pourront être utilisées pour recouvrir les cases choisies.*

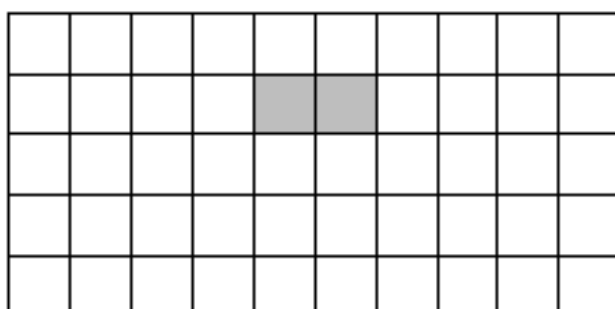
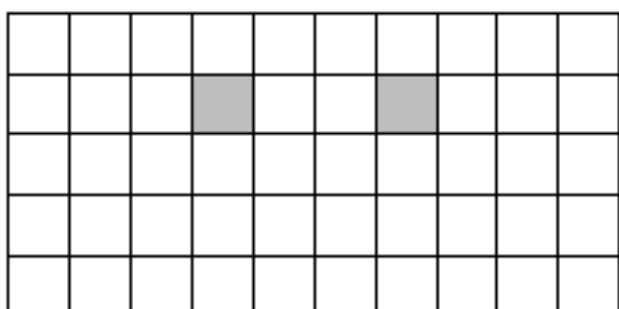
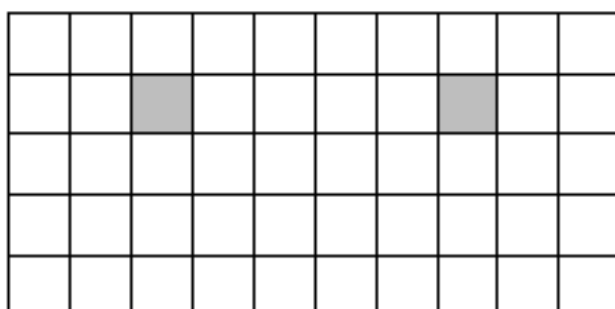
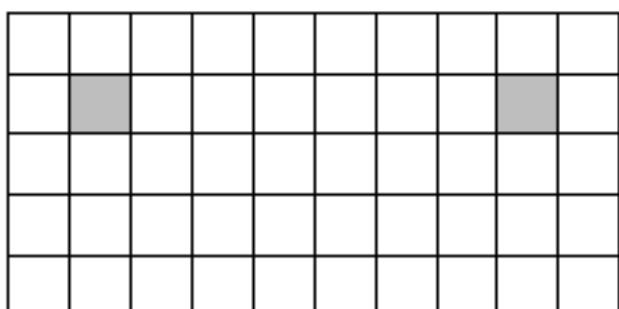
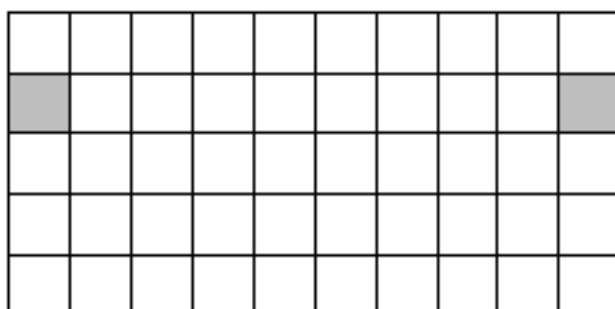
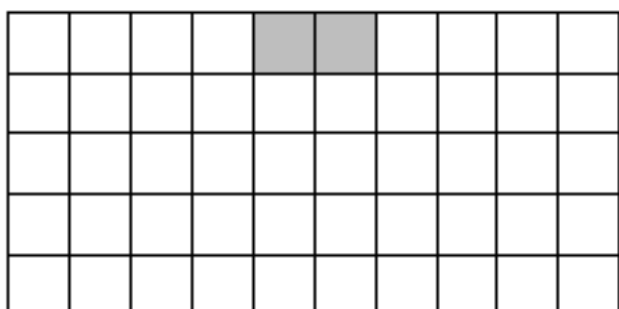
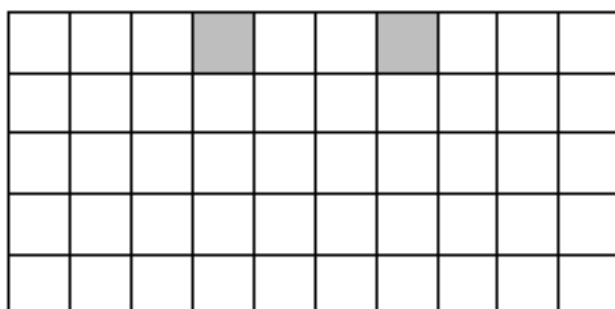
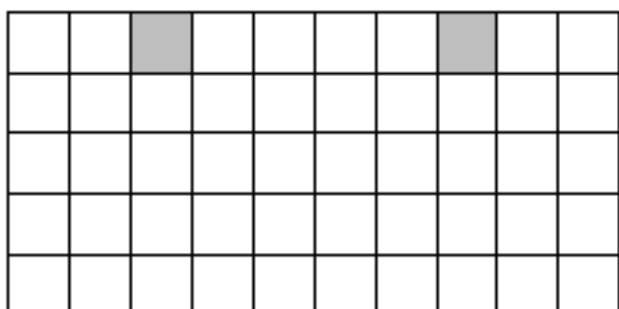
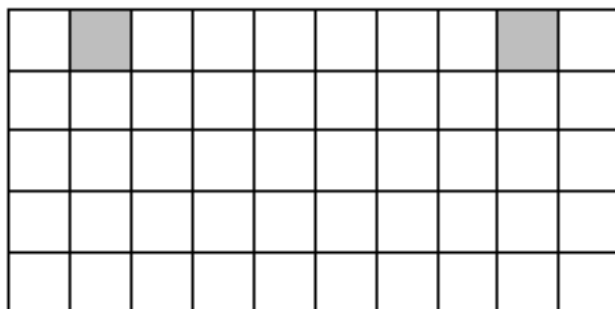
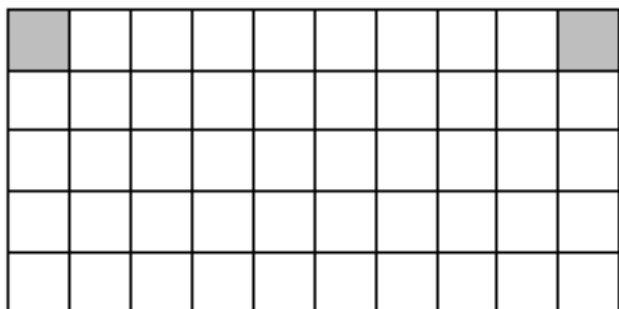


**Pour une recherche « papier-crayon » du placement  
des deux cases symétriques (symétrie axiale)**

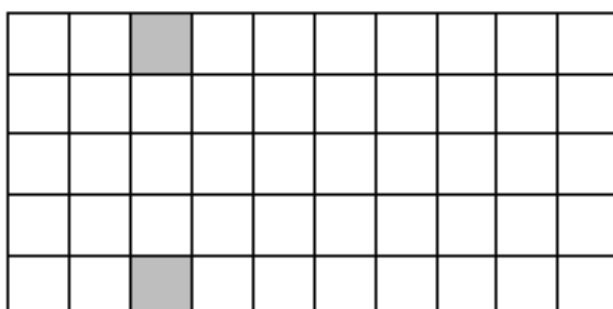
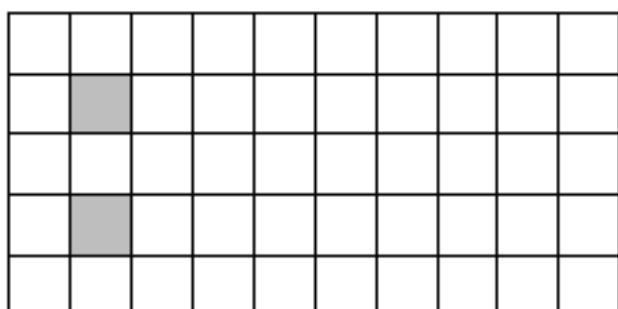
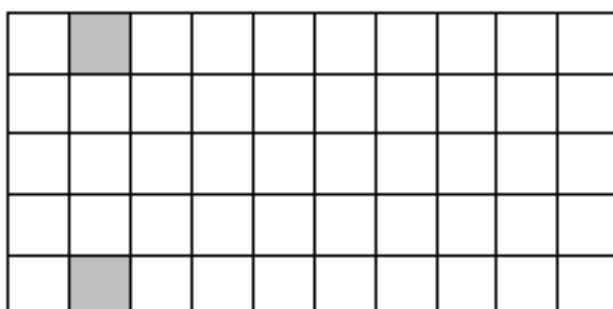
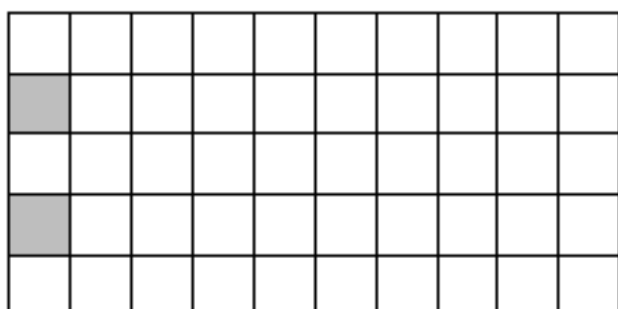
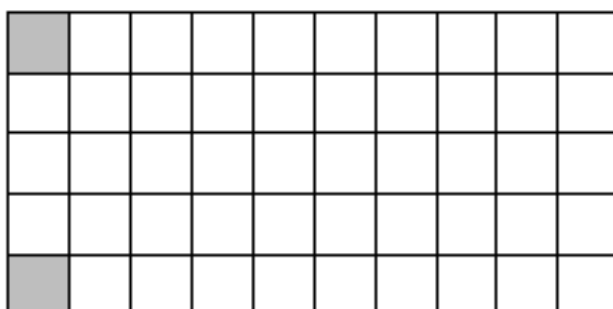
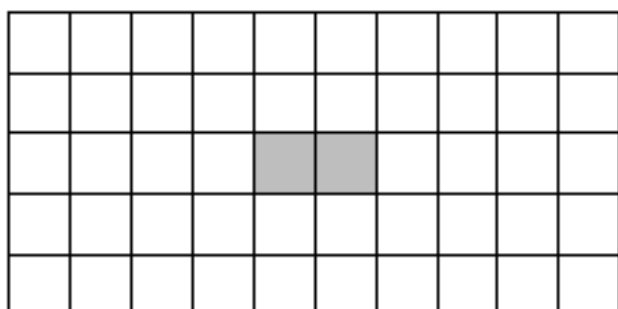
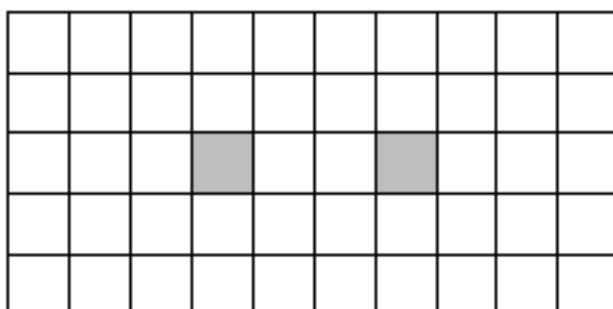
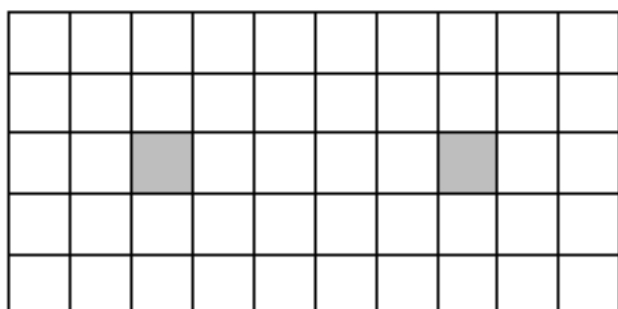
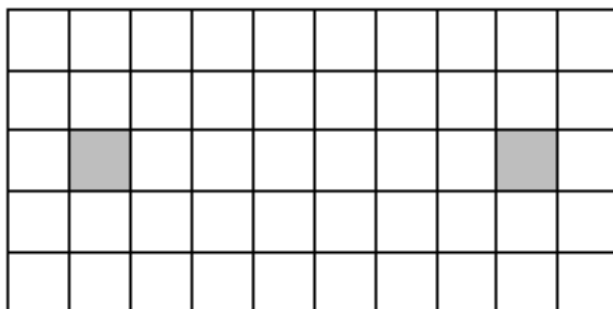
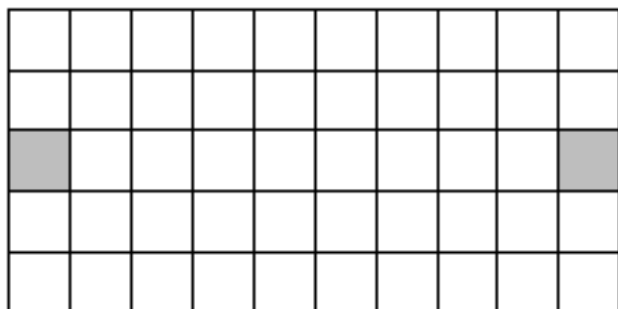


*Document à dupliquer en plusieurs exemplaires*

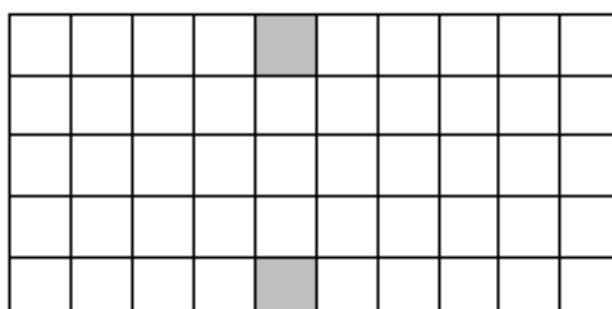
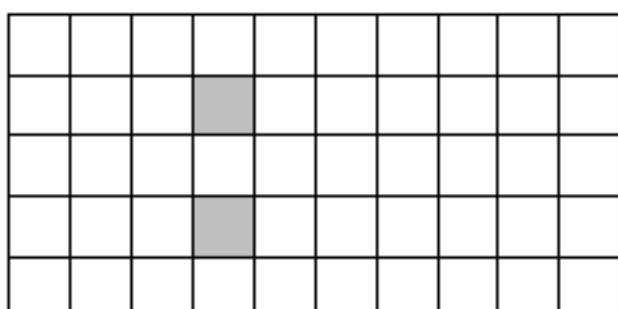
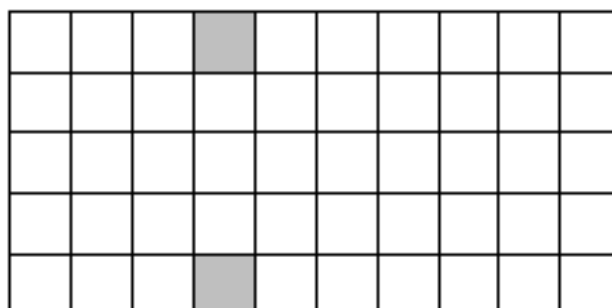
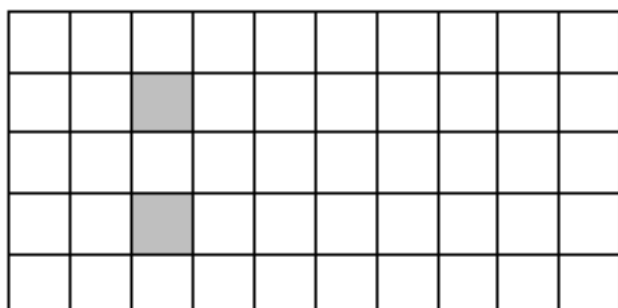
## Les positions symétriques des deux cases non recouvertes par des Petits L (symétrie axiale) 1



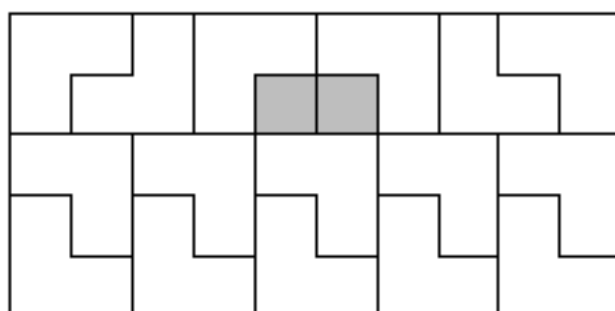
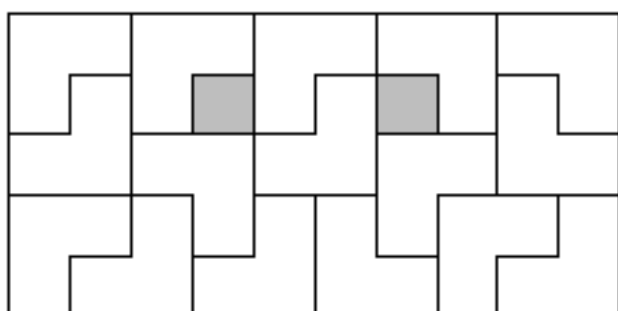
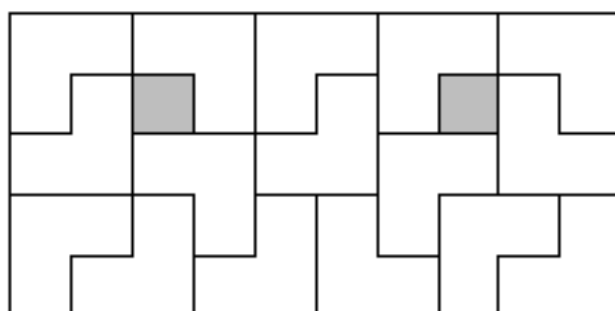
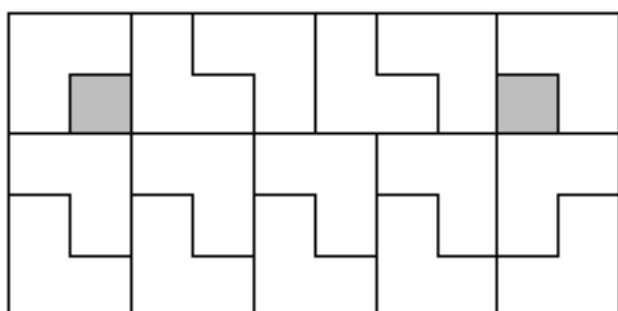
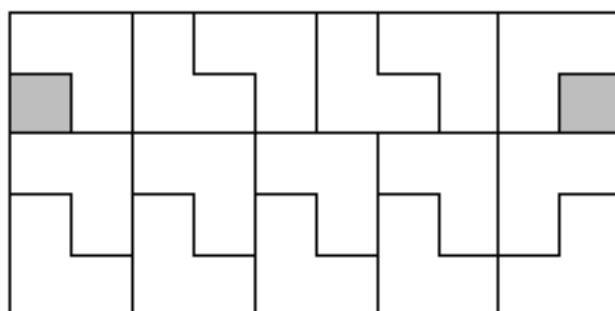
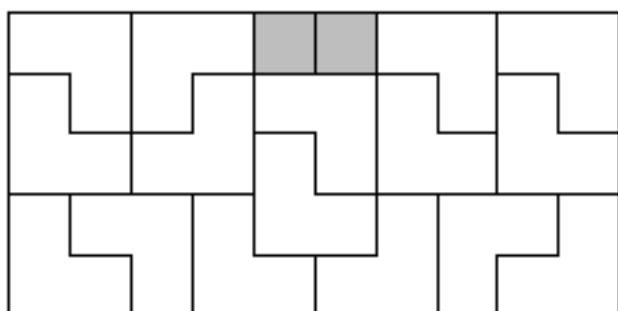
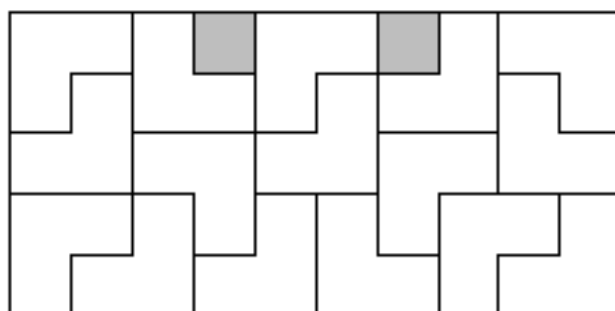
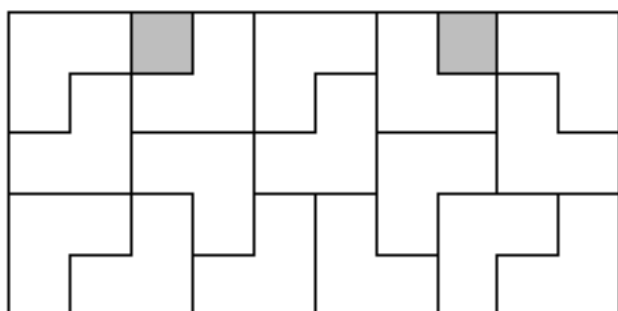
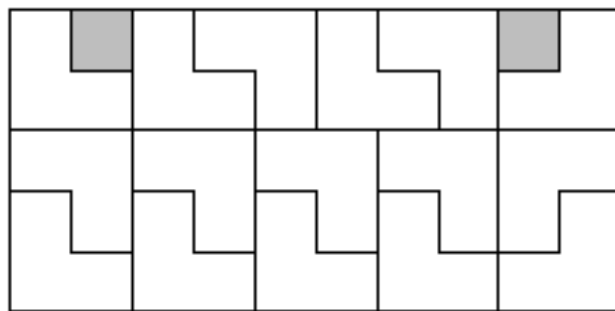
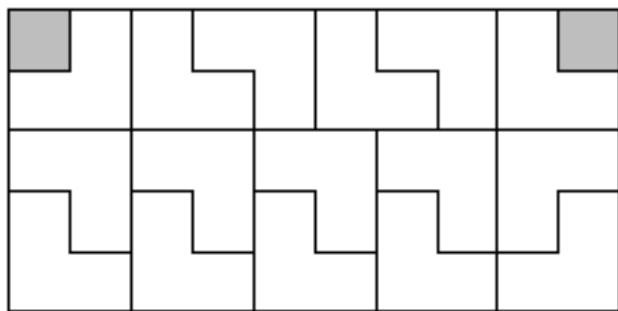
## Les positions symétriques des deux cases non recouvertes par des Petits L (symétrie axiale) 2



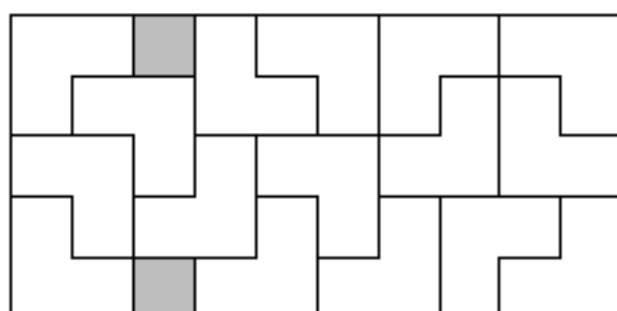
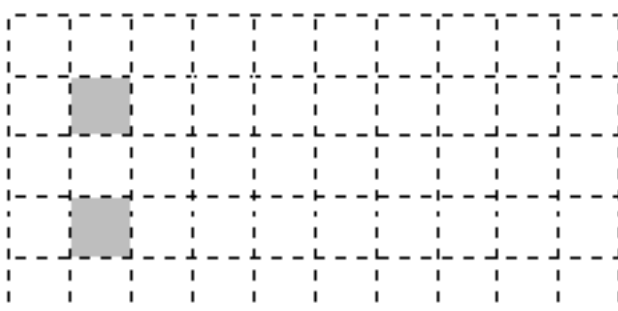
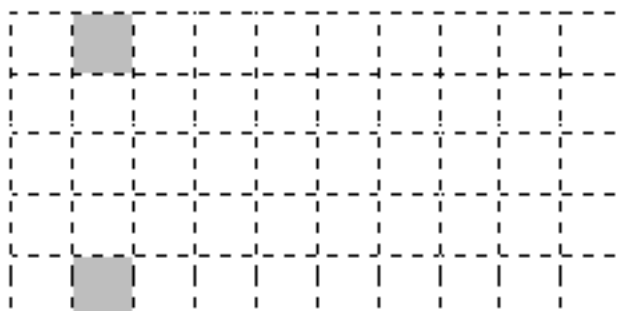
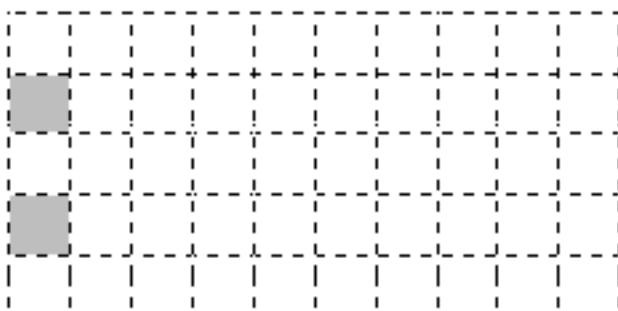
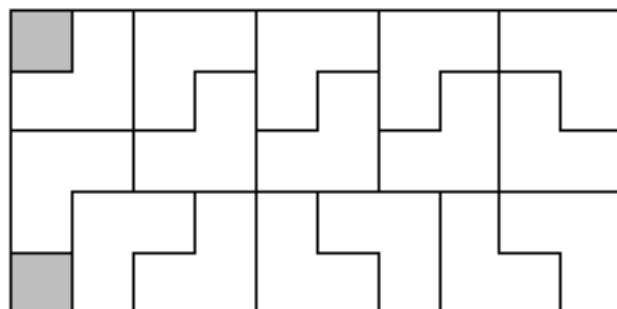
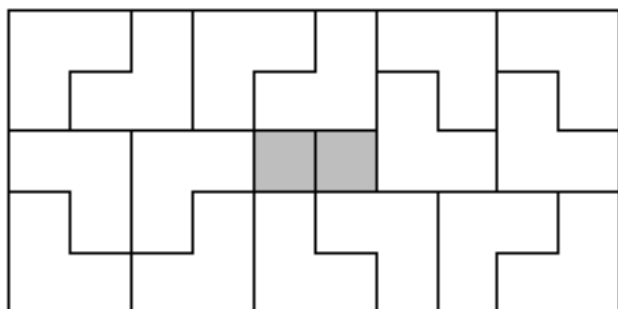
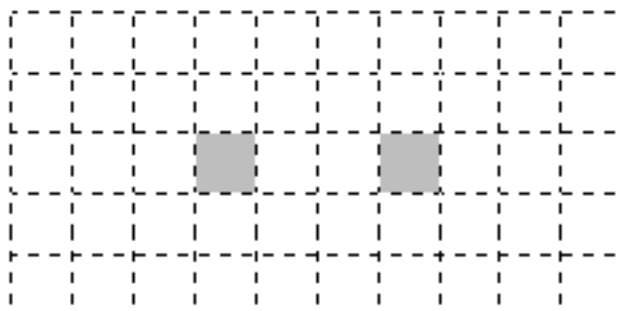
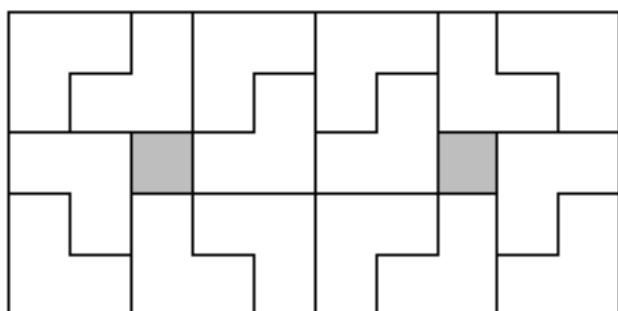
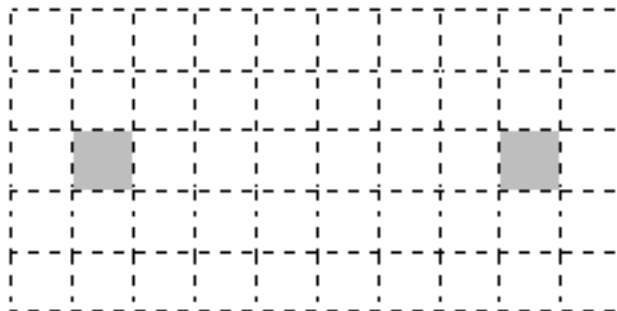
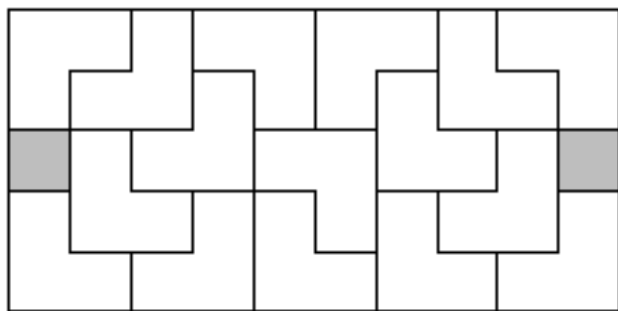
## Les positions symétriques des deux cases non recouvertes par des Petits L (symétrie axiale) 3



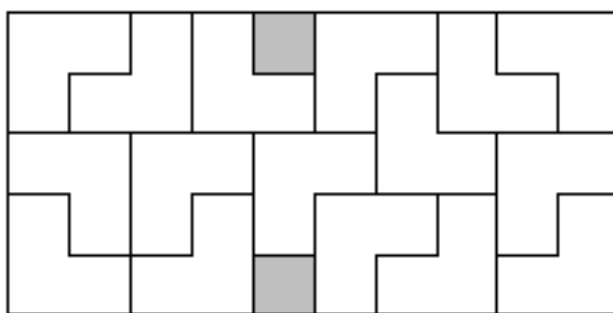
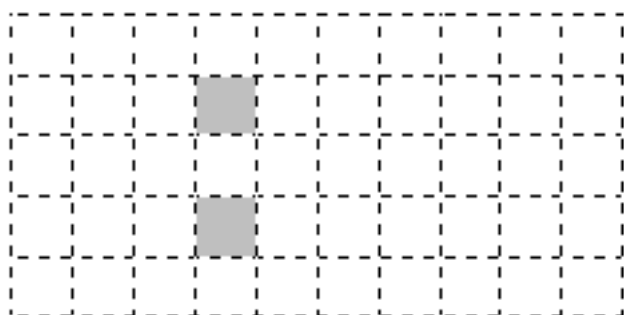
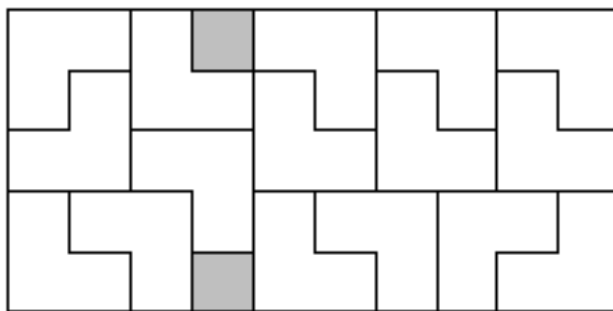
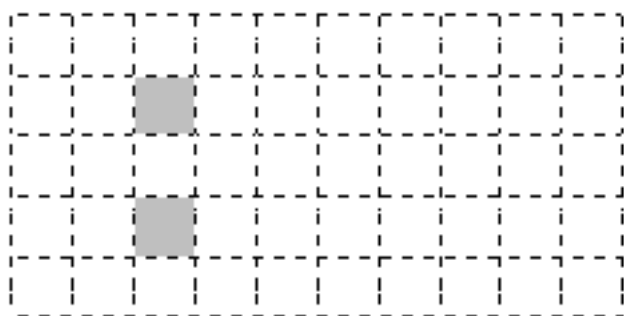
## Pour colorier les « Petits L » placés sur les 48 cases restantes (1)



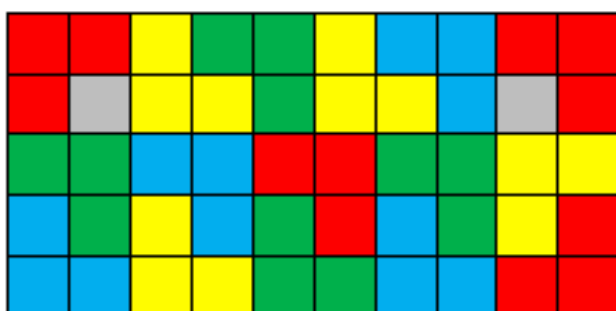
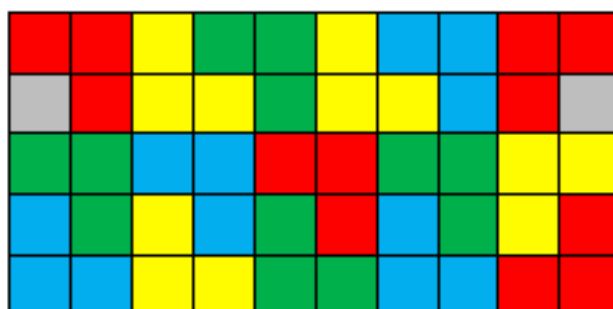
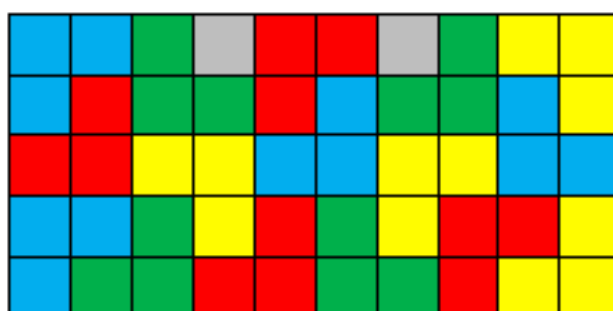
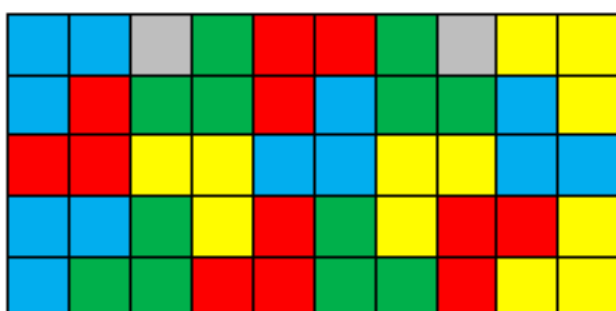
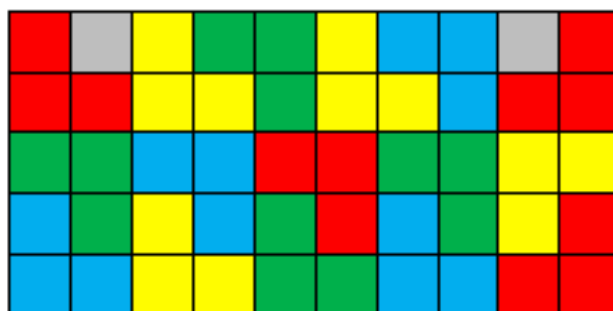
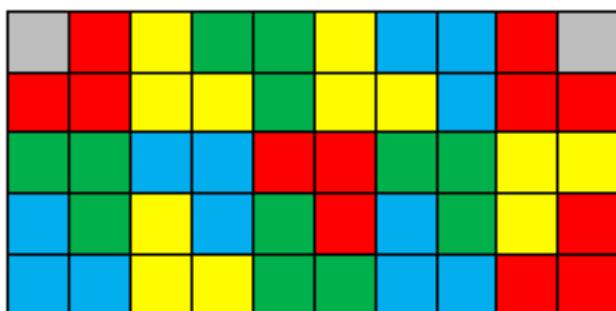
## Pour colorier les « Petits L » placés sur les 48 cases restantes (2)



## Pour colorier les « Petits L » placés sur les 48 cases restantes (2)

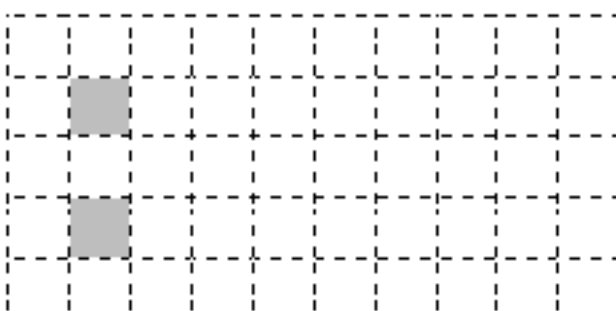
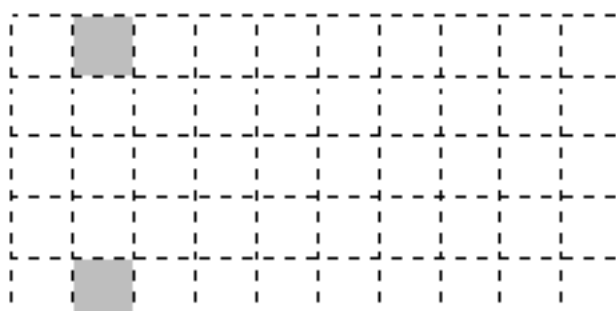
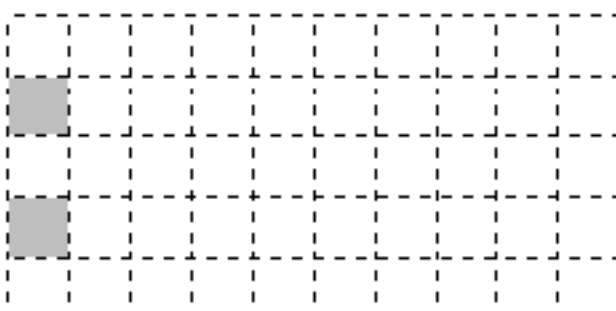
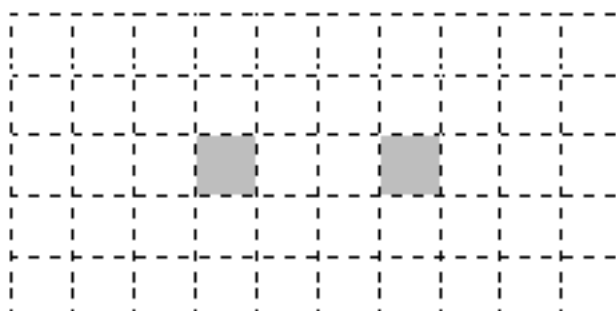
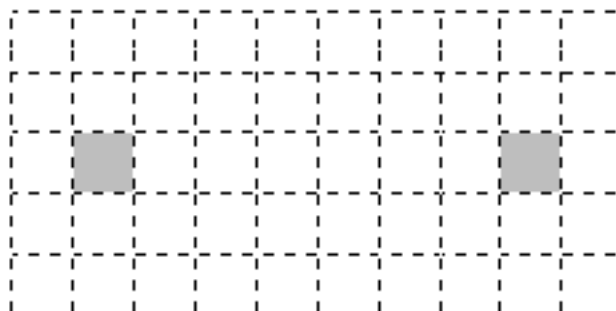


## Les recouvrements des 48 cases restantes (symétrie axiale) 1

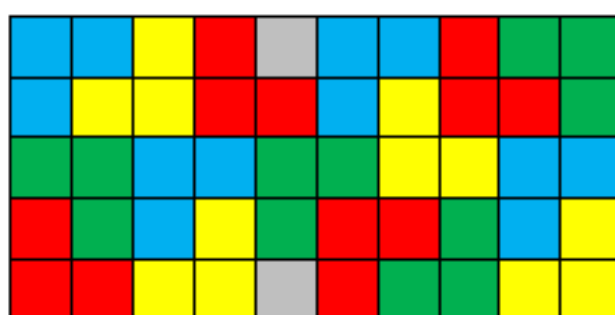
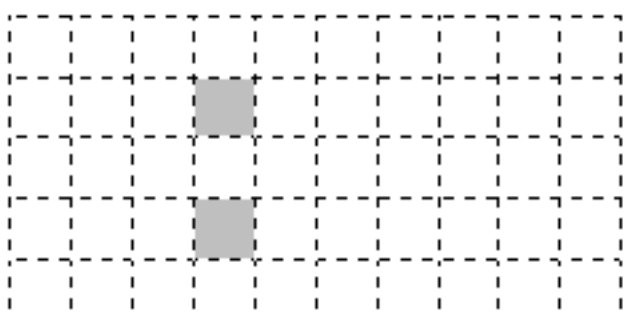
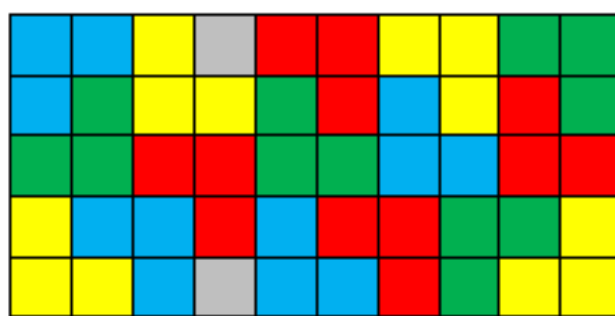




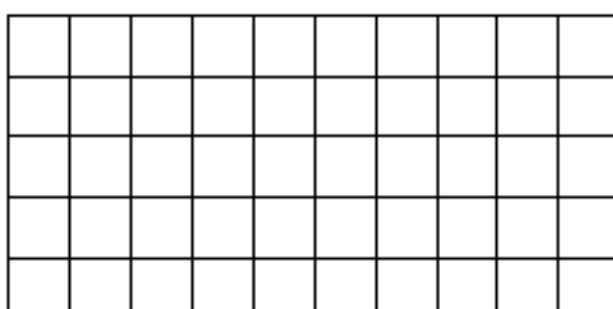
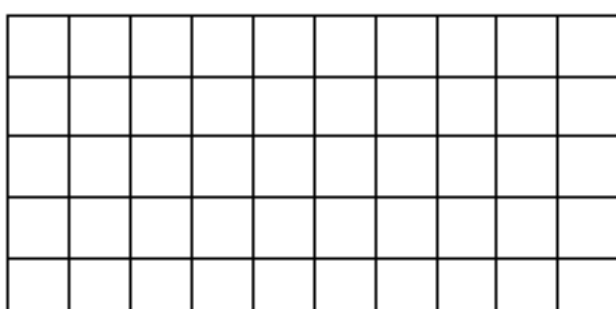
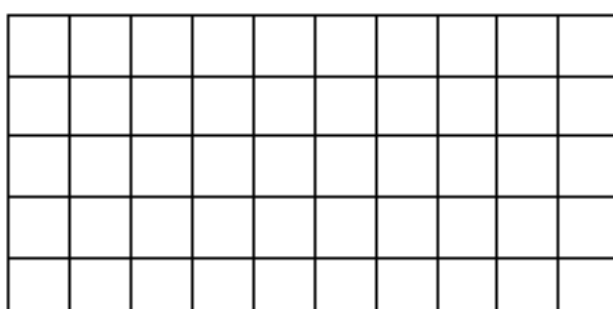
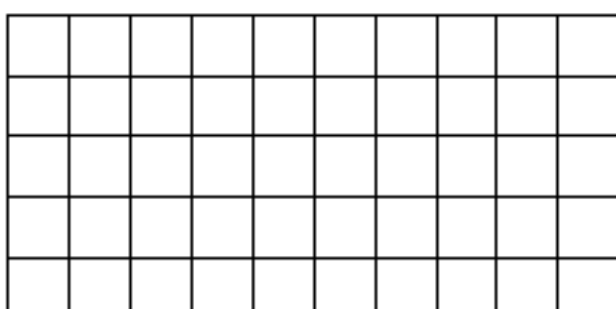
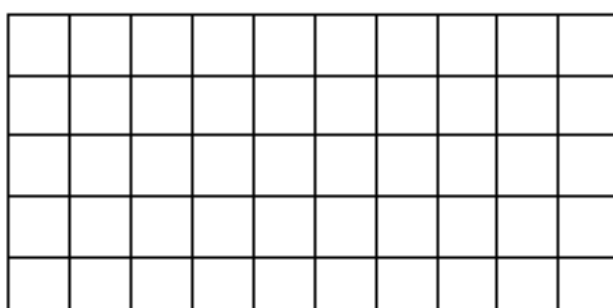
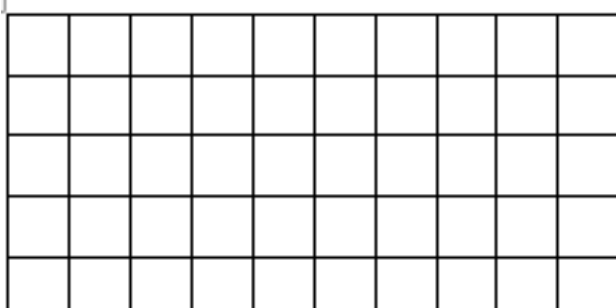
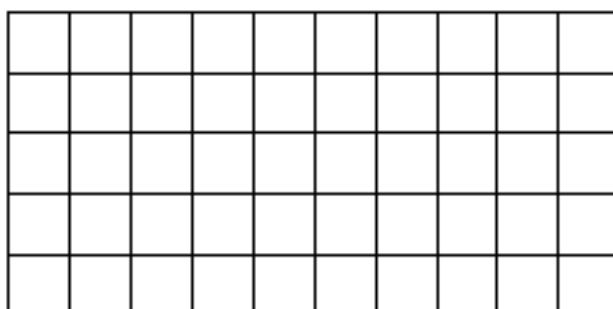
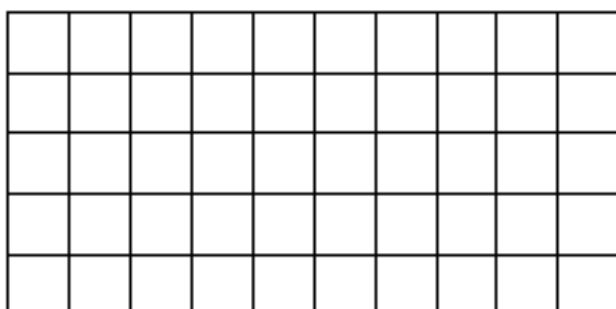
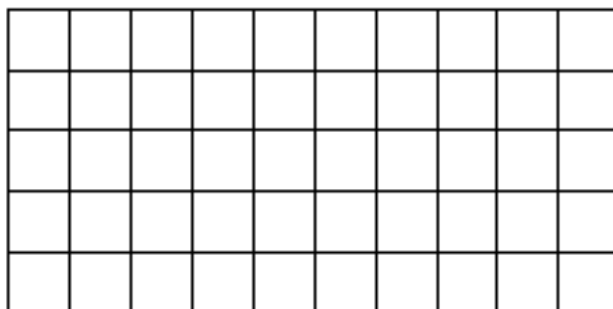
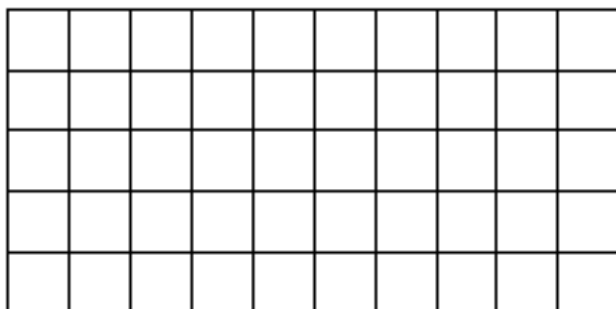
## Les recouvrements des 48 cases restantes (symétrie axiale) 2



## Les recouvrements des 48 cases restantes (symétrie axiale) 3

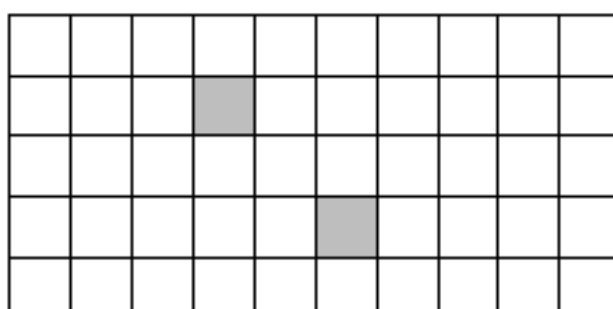
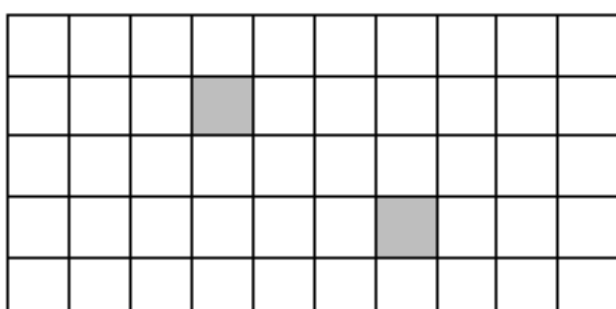
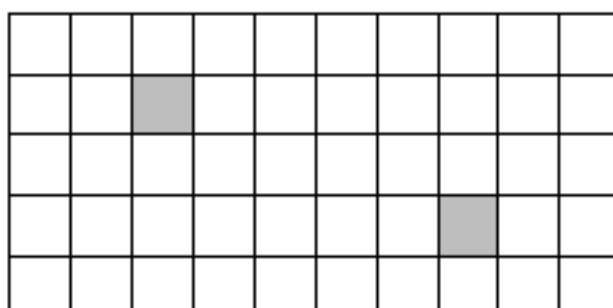
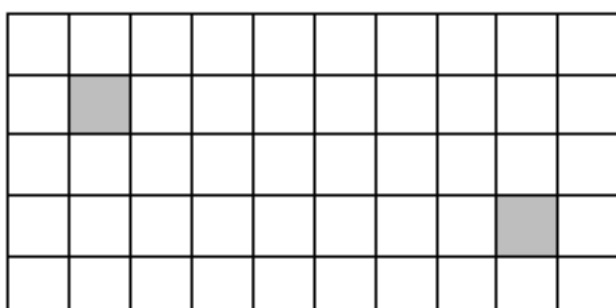
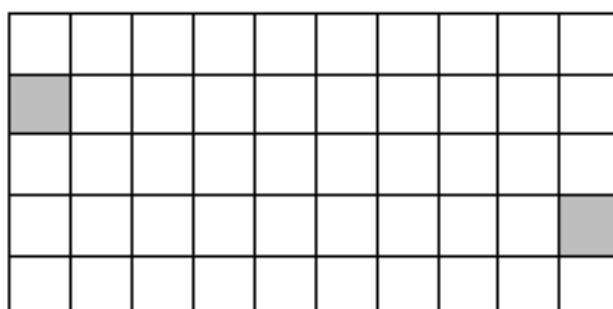
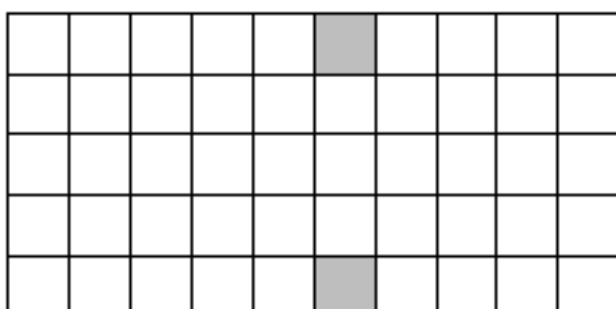
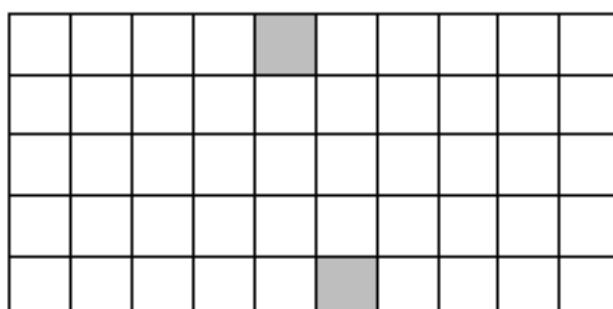
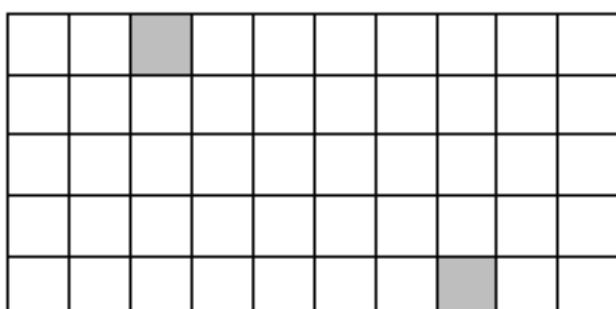
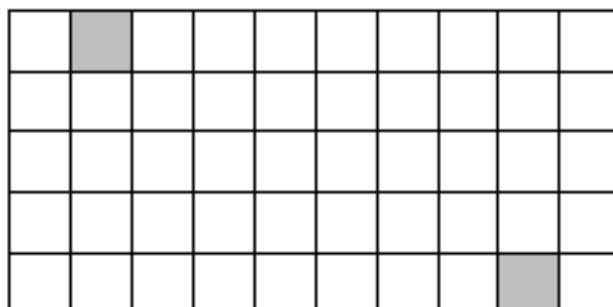
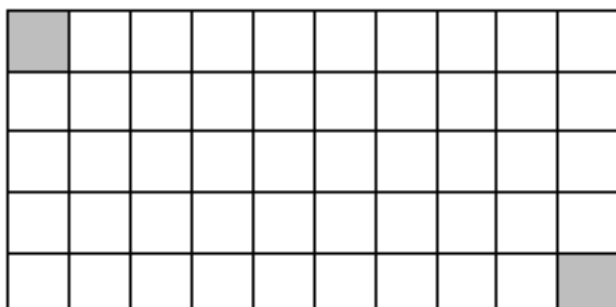


## Pour une recherche « papier-crayon » du placement des deux cases symétriques (symétrie centrale)

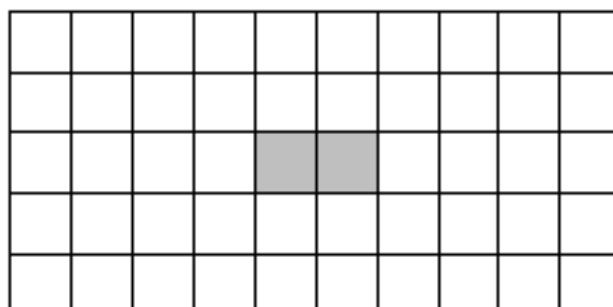
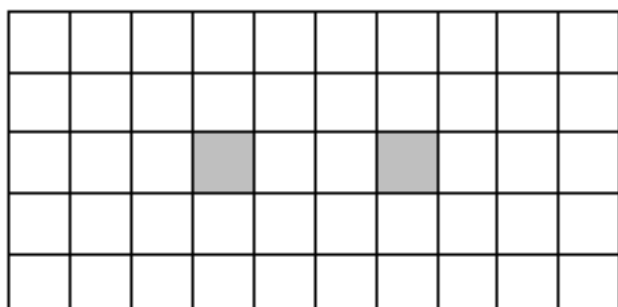
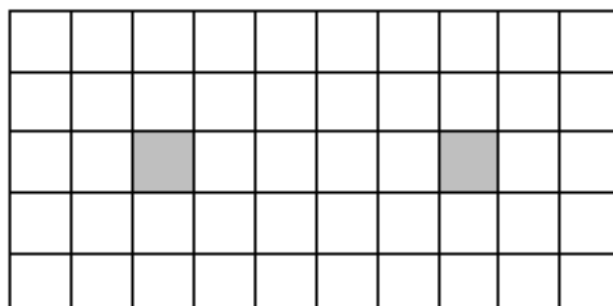
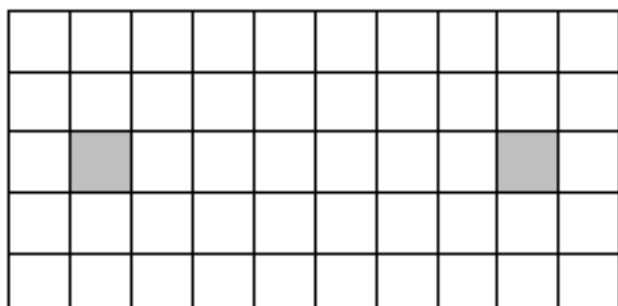
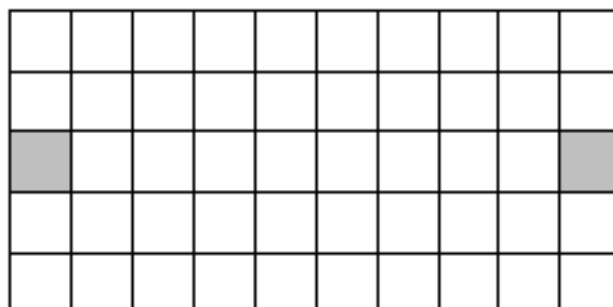
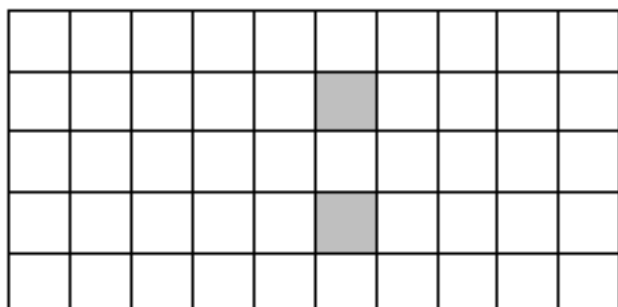


*Document à dupliquer en plusieurs exemplaires*

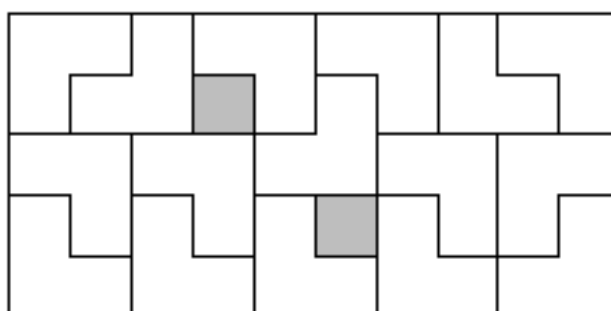
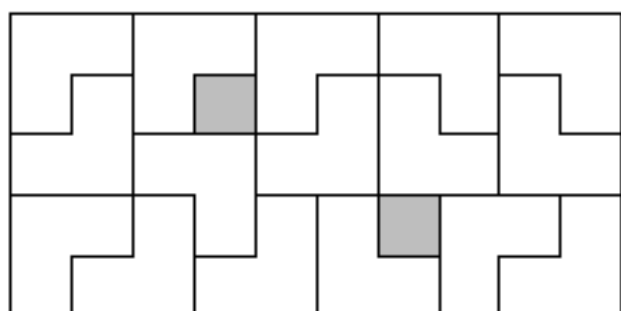
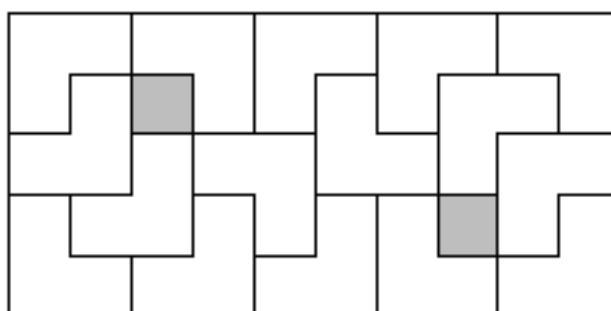
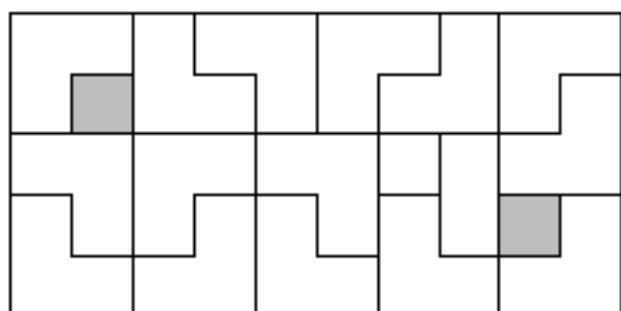
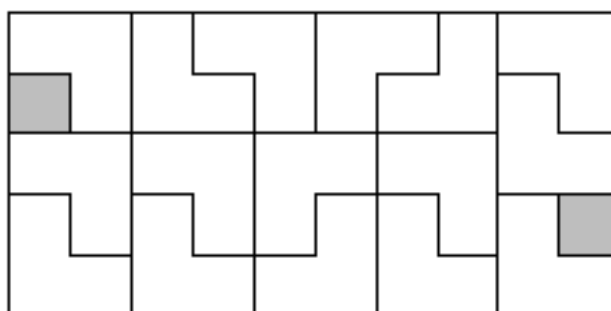
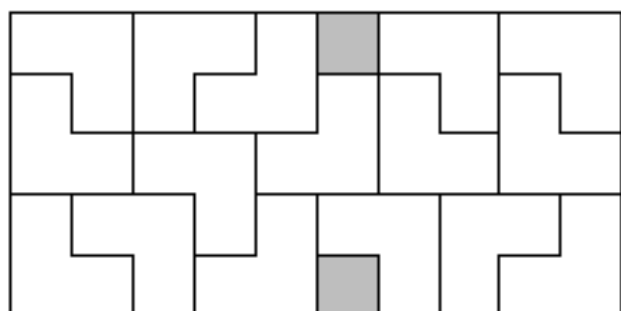
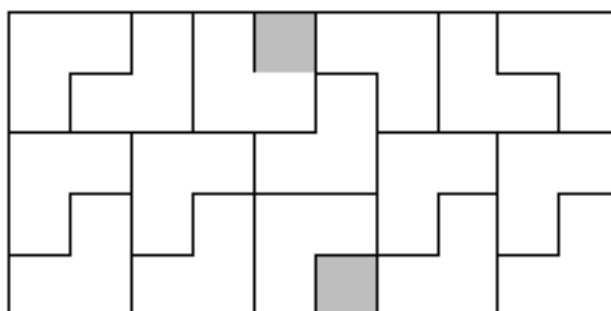
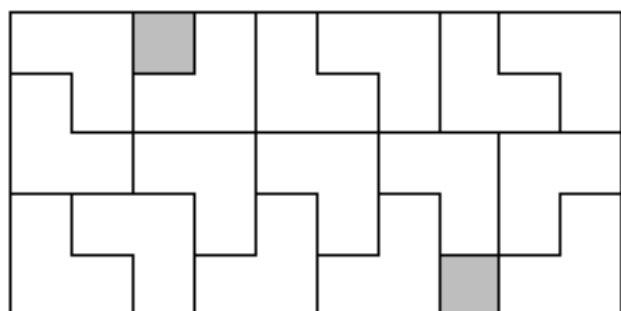
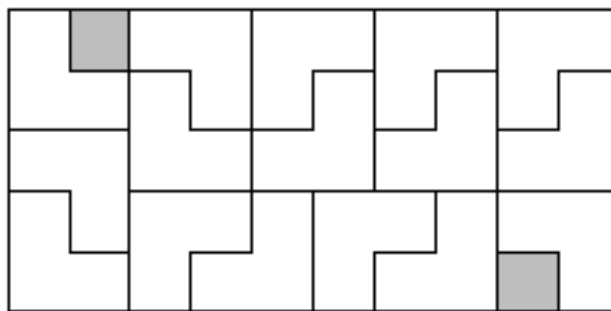
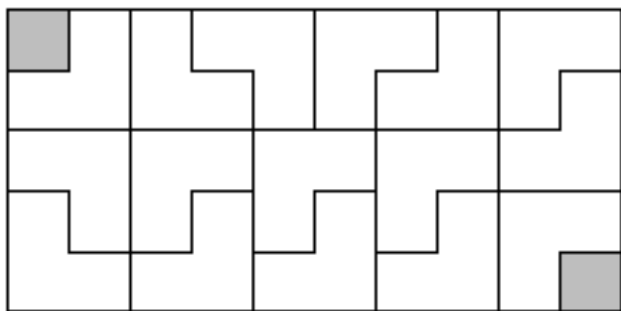
## Les positions symétriques des deux cases non recouvertes par des Petits L (symétrie centrale) 1



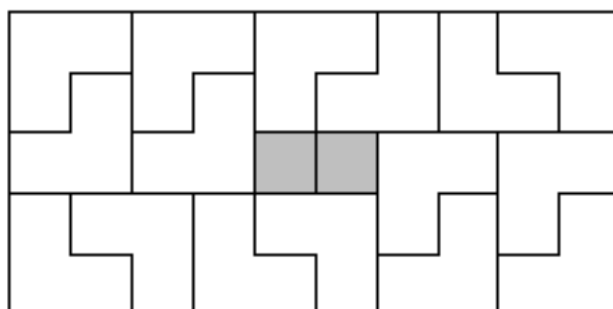
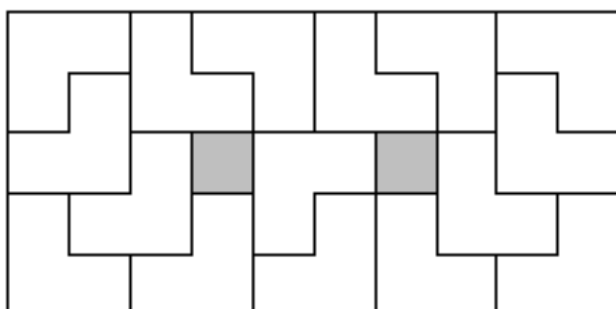
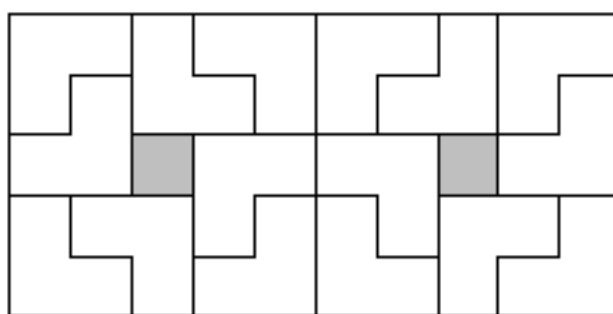
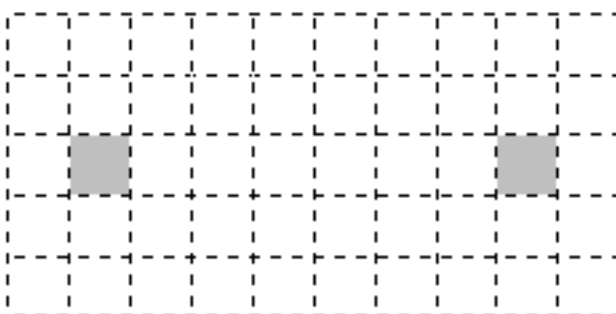
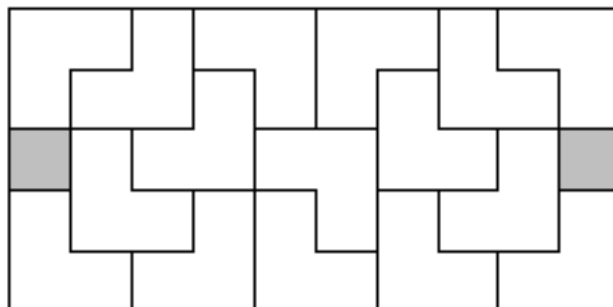
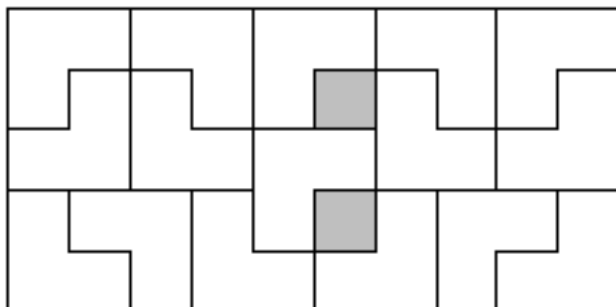
## Les positions symétriques des deux cases non recouvertes par des Petits L (symétrie centrale) 2



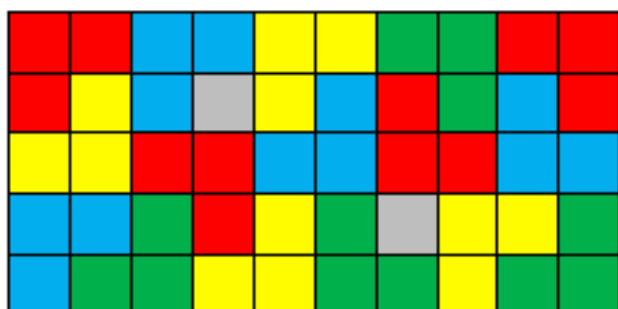
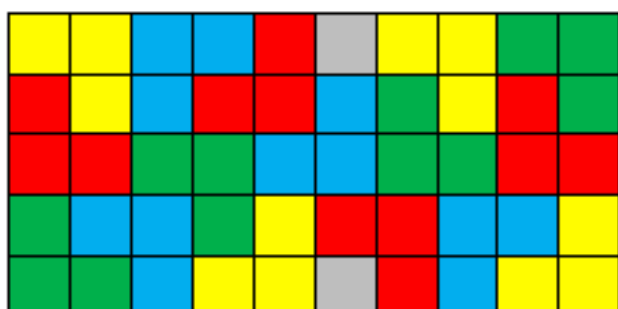
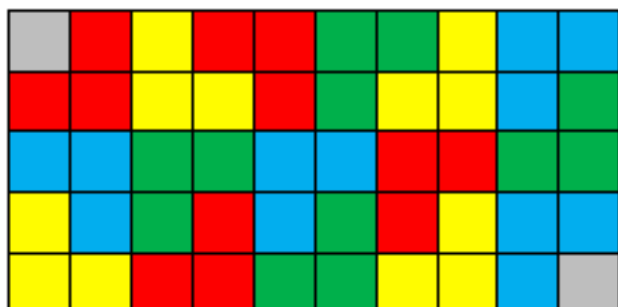
## Pour colorier les « Petits L » placés sur les 48 cases restantes (1)



## Pour colorier les « Petits L » placés sur les 48 cases restantes (2)



## Les recouvrements des 48 cases restantes (symétrie centrale) 1





## Les recouvrements des 48 cases restantes (symétrie centrale) 2

