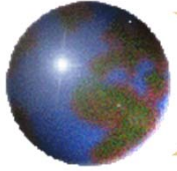


平面拼圖遊戲
之
五板拼圖



介紹五板拼圖

✦ 由五塊組件組成,包括:

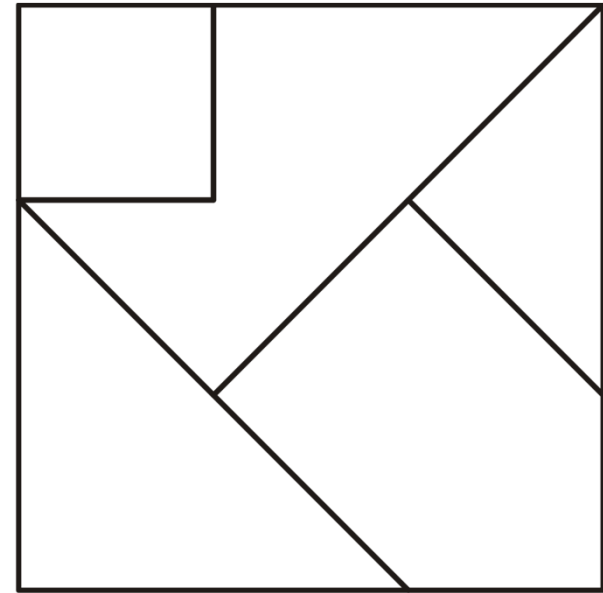
✦ 一件正方形

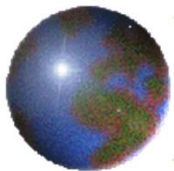
✦ 一件小直角三角形

✦ 一件大直角三角形

✦ 一件五邊形(稱屋形板)

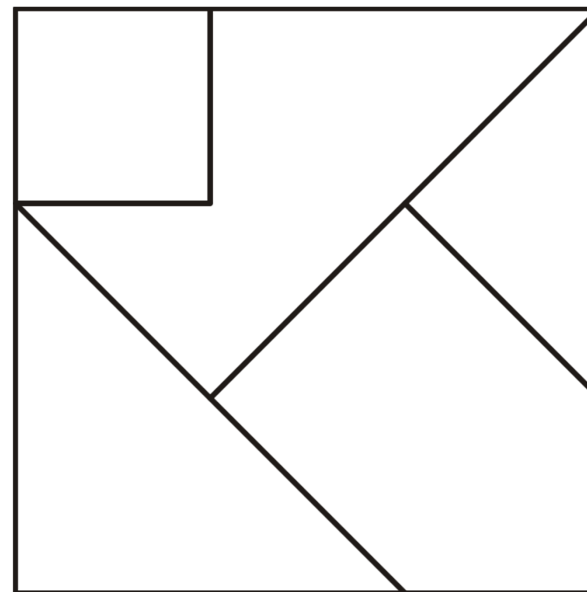
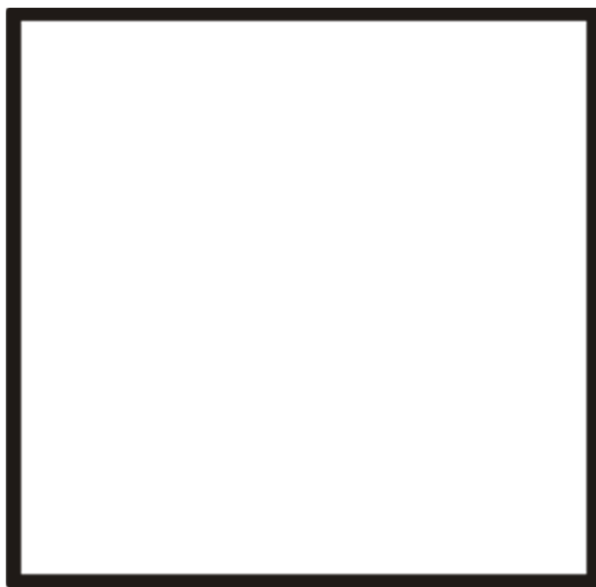
✦ 一件不規則五邊形(稱山形板)

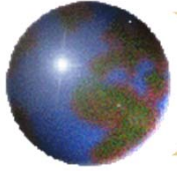




遊戲規則

利用這五件板塊以互不重疊地拼湊出指定的圖形。

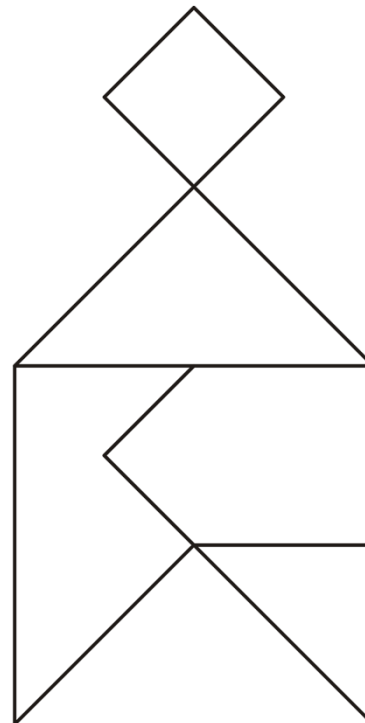
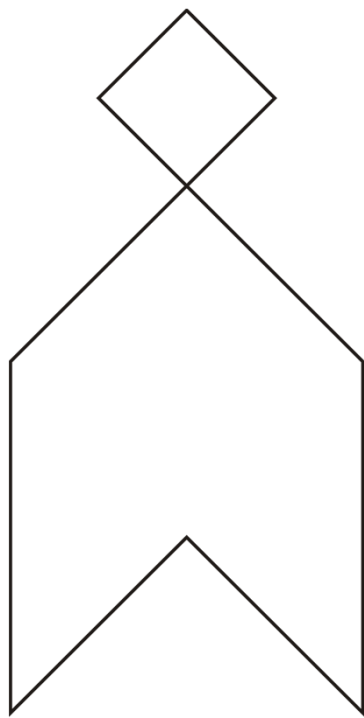
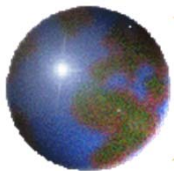




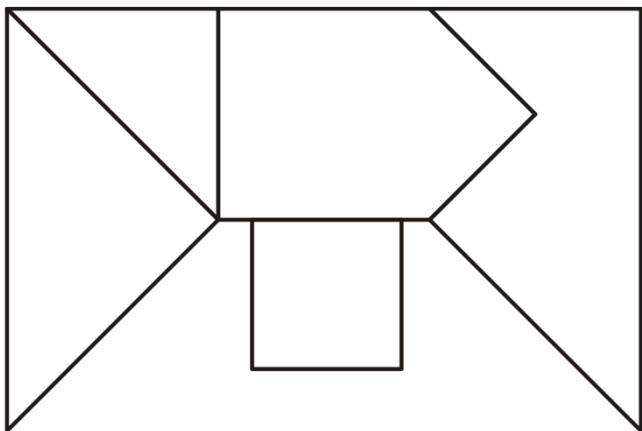
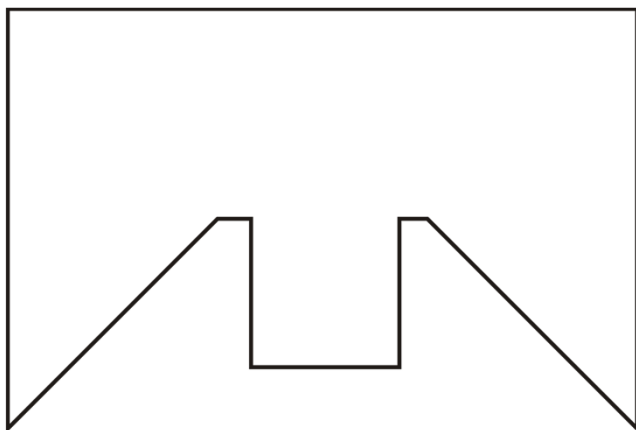
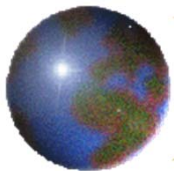
如何更有效拼湊出指定的圖形？

建議一：

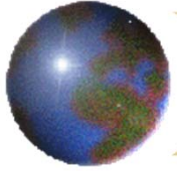
先行擺放較分離部份。



- ✦ 先放較分離的正方形
- ✦ 再放大三角形
- ✦ 考慮兩個尖角向下,其餘就不難放了

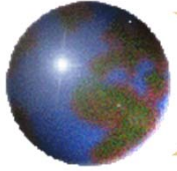


- ✪ 先放較分離的正方形
- ✪ 考慮兩個尖角向下，其餘就不難放了

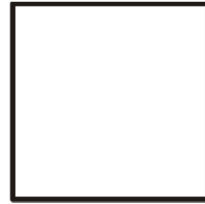


建議二：認識五板拼圖的基本構造

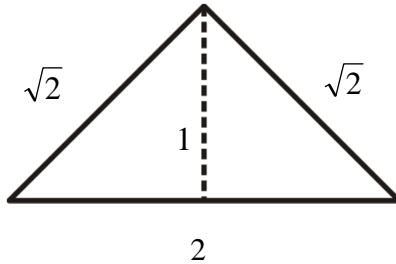
包括形狀、
邊長、
面積 及
組合



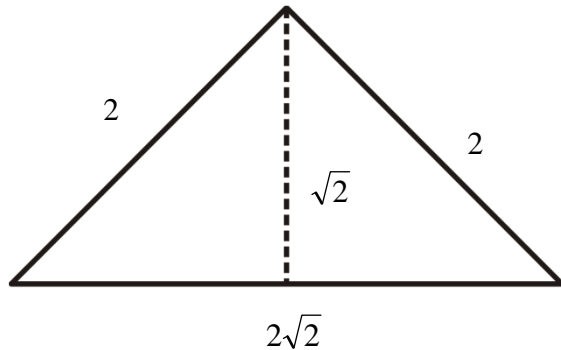
邊長:



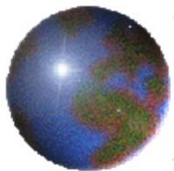
每邊1個單位



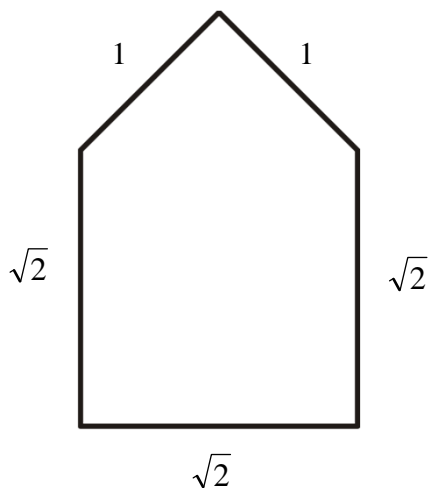
高為1個單位,底邊為2個單位



高為開方2個單位,
底邊為2開方2個單位

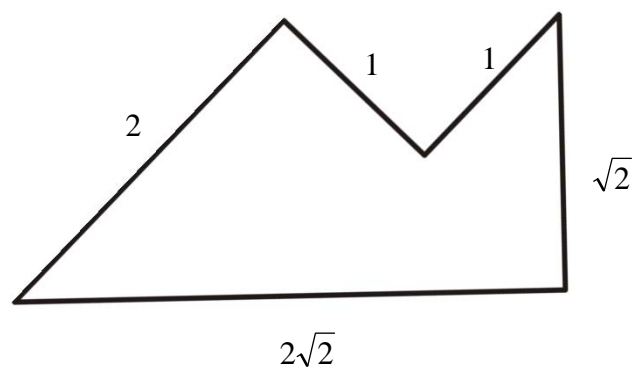


邊長：



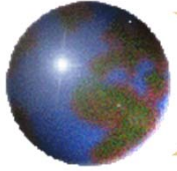
屋形板：

一對凸出1個單位的邊



山形板：

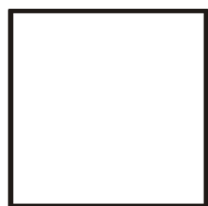
一對凹陷1個單位的邊



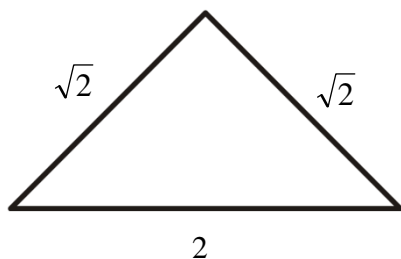
- ✦ 若以正方形為一個基本單位
- ✦ 五板拼圖可由九個基本單位構成
- ✦ 每個拼圖的總面積一定相等



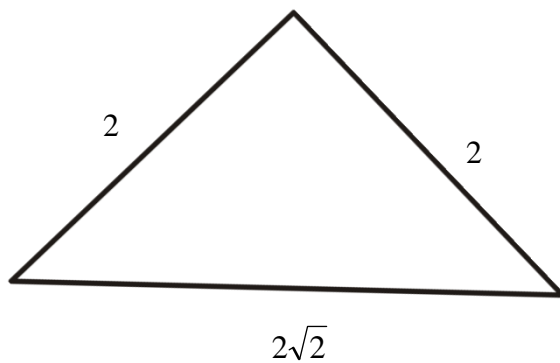
面積:



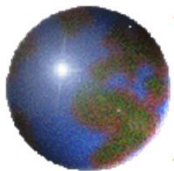
1個基本單位



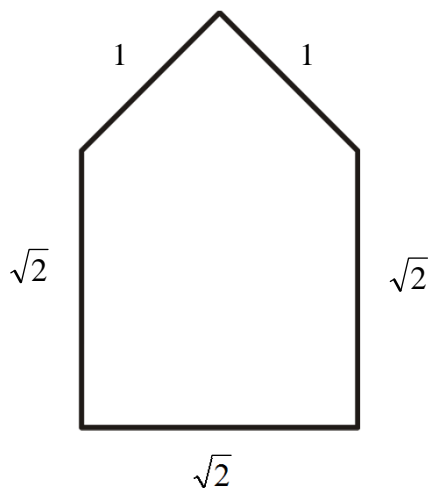
1個基本單位



2個基本單位

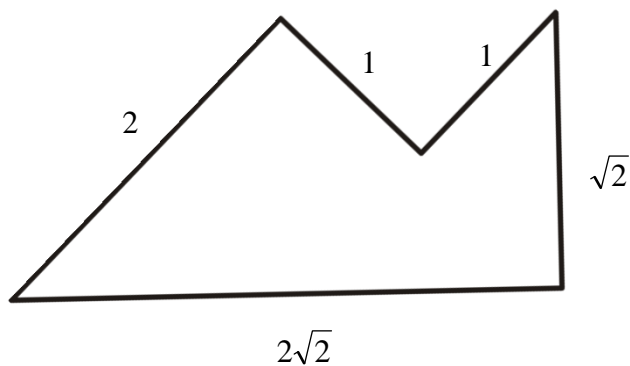


面積:



2.5個基本單位

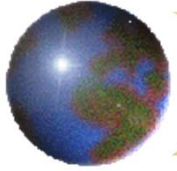
隱藏 一個半正方形 +
一個小三角形



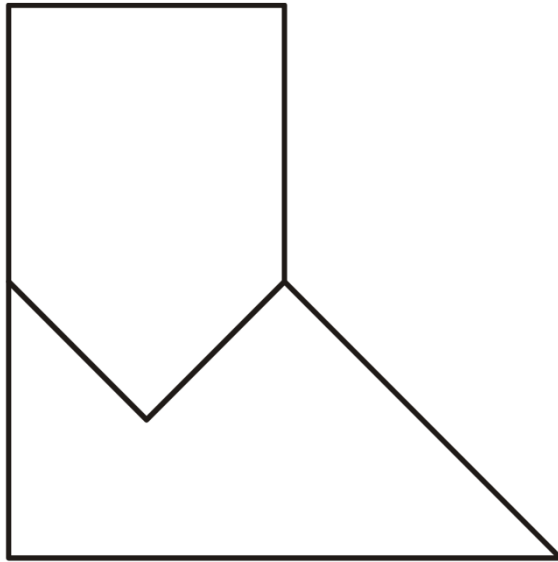
2.5個基本單位

隱藏 一個大三角形 +
半個正方形

五板拼圖由9個基本單位構成



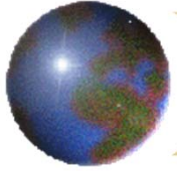
組合：與其他板塊緊緊接合，可隱藏山形。



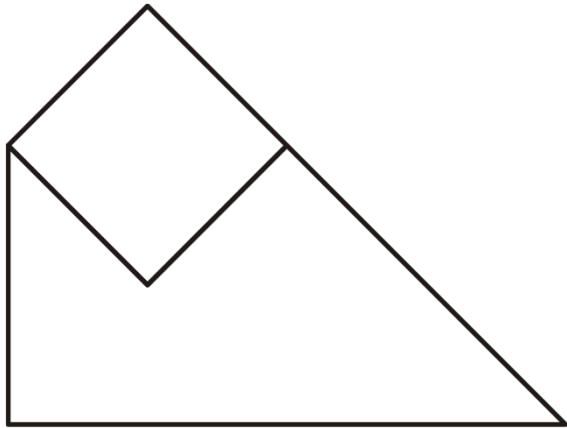
高為2開方2個單位，
底邊為2開方2個單位

屋形 + 山形 (稱靴形)

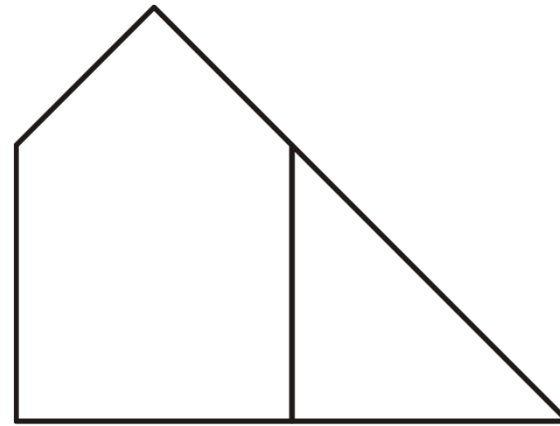
佔5個基本單位



組合：與其他板塊緊緊接合，隱藏山形。



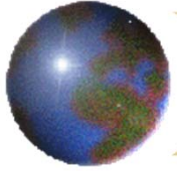
=



山形 + 正方形

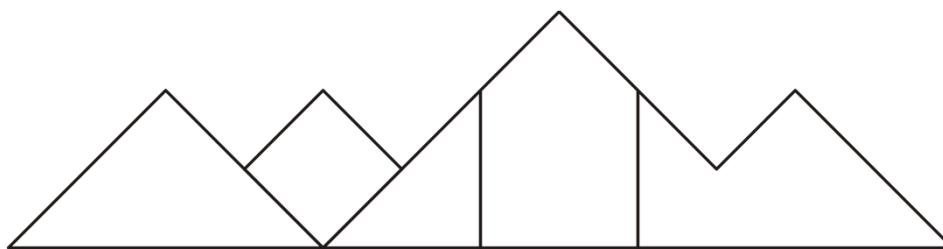
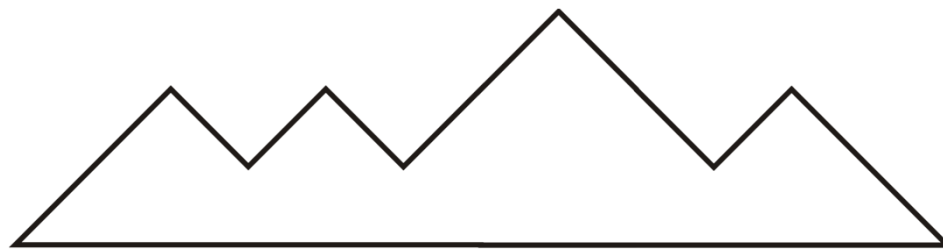
屋形 + 小三角形

佔3.5個基本單位

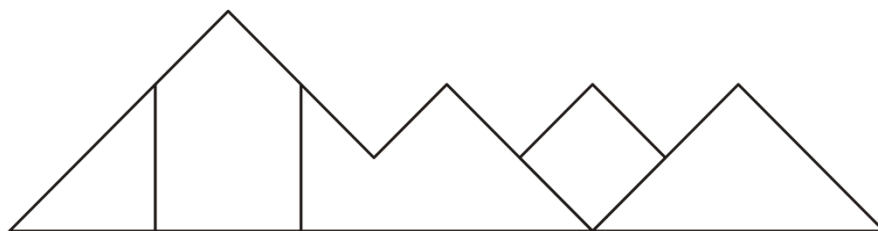
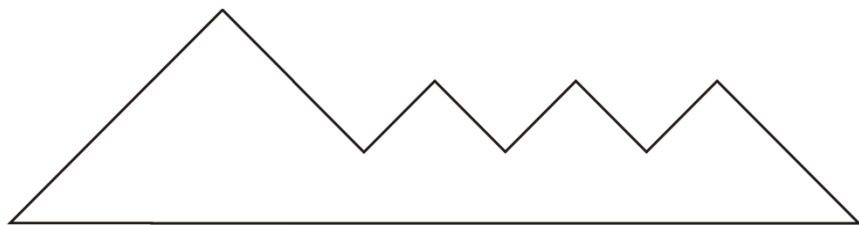
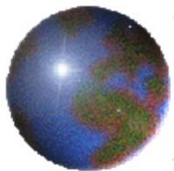


建議三：

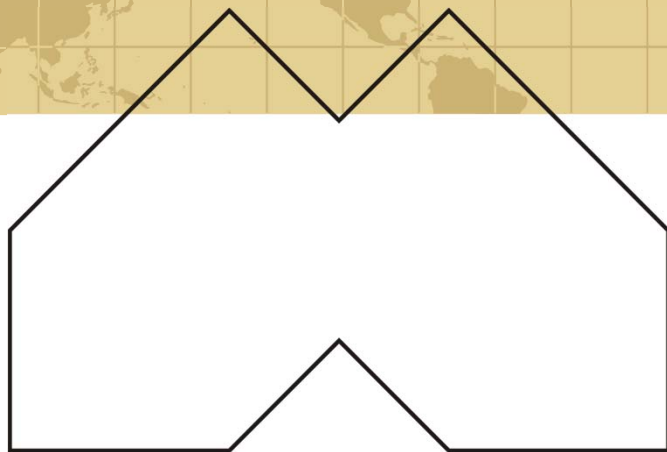
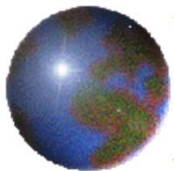
考慮兩條1個單位的邊，
尋找山形板塊或正方形，
可擺放的位置。



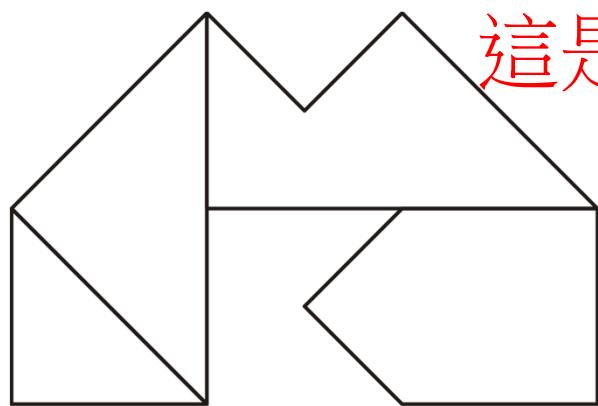
- ⊕ 考慮兩條凸出1個單位的邊,可放正方形.
- ⊕ 左邊必放大三角形
- ⊕ 其餘就不難放了



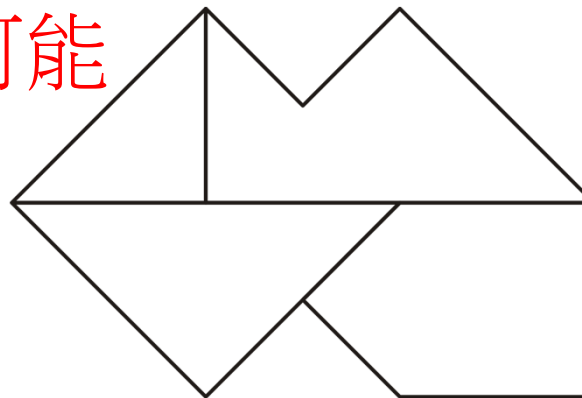
- 有三對凸出1個單位的邊,故正方形必放其中.
- 右邊放大三角形,左邊必放山形板.
- 其餘就不難放了

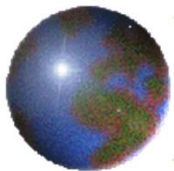


- ⊕ 考慮一對凹入的1個單位的邊,可放山形板.
- ⊕ 若山形板放在上面,左邊必為大三角形或小三角形.

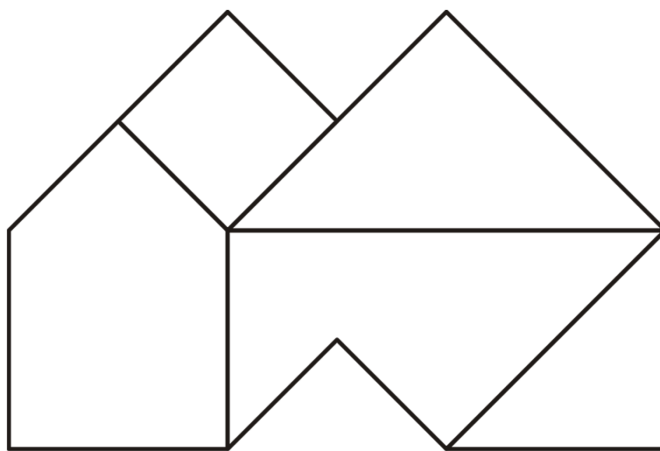


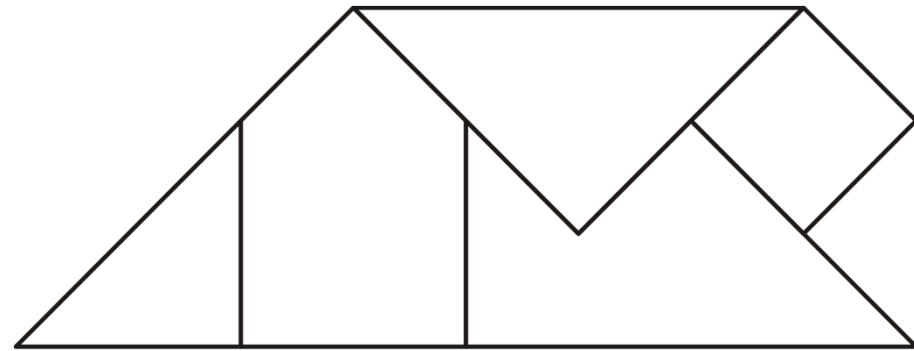
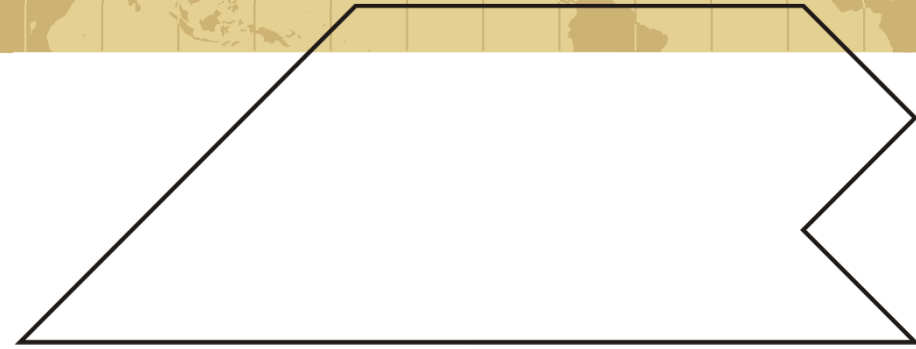
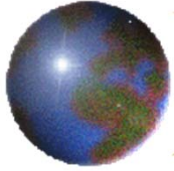
這是沒可能



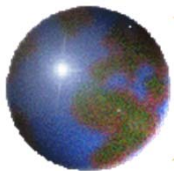


- ✿ 若山形板放在下面,右邊必為小三角形,左邊為屋形板
- ✿ 其餘就不難放了



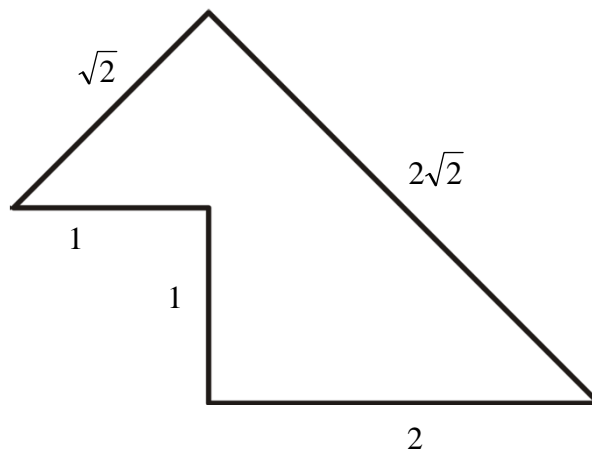


- ✪ 考慮一對1個單位的邊,可放正方形.
- ✪ 右下角的尖角可考慮放大三角形或山形,但山形放上和大三角形放下是沒可能.
- ✪ 故大三角形必放在上而山形板在下. 其餘就不難放了.

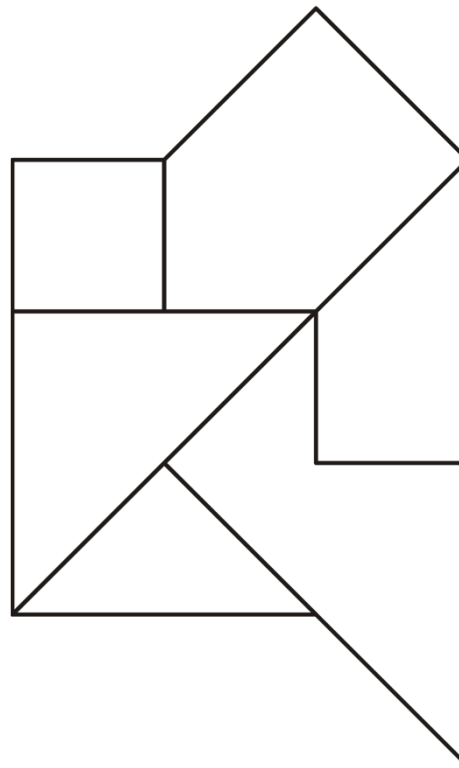
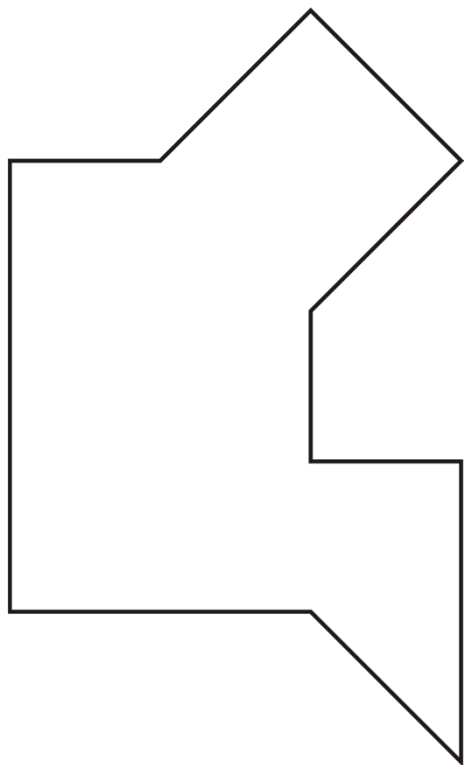
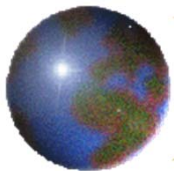


建議四：

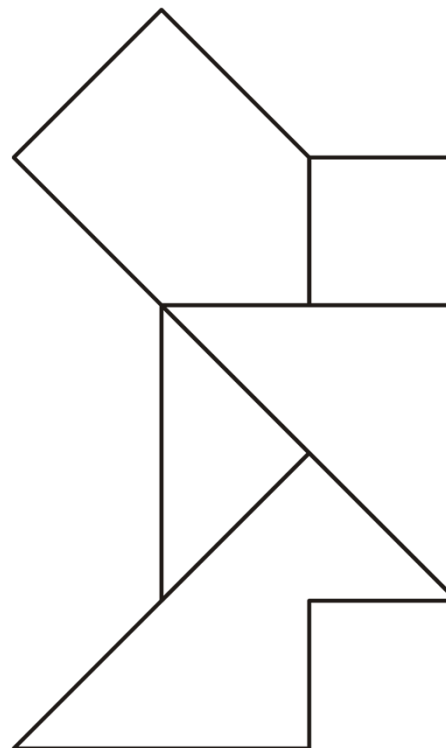
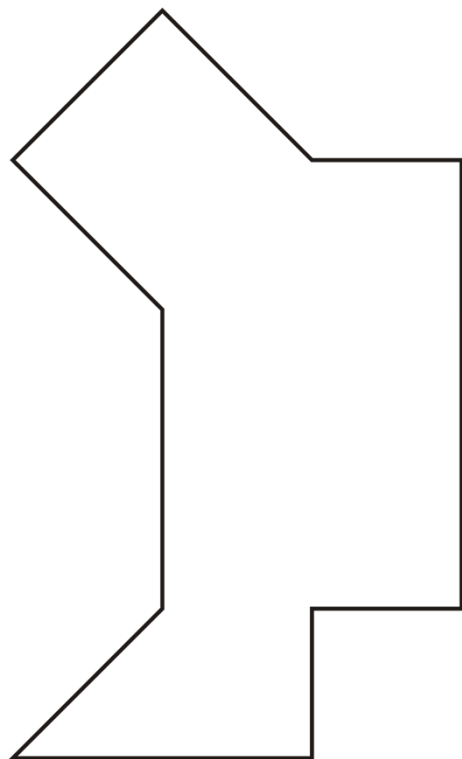
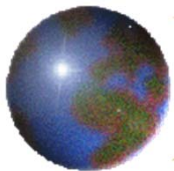
嘗試尋找山形板塊可擺放的位置。



- 留意圖中兩條1個單位及一條2個單位 (1,1,2) 長的邊, 可放山形板塊



- ⊕ 考慮圖中出現1,1,2邊長的排列,放山形板塊
- ⊕ 再考慮放凸出的屋形板
- ⊕ 其餘就不難放了

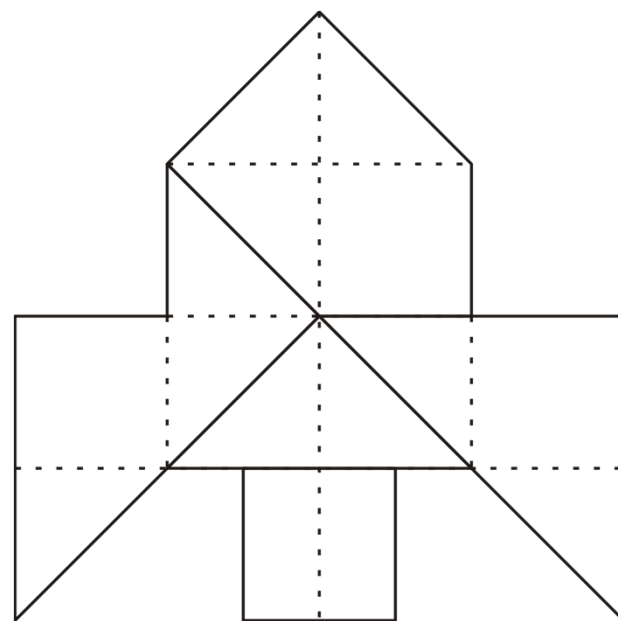
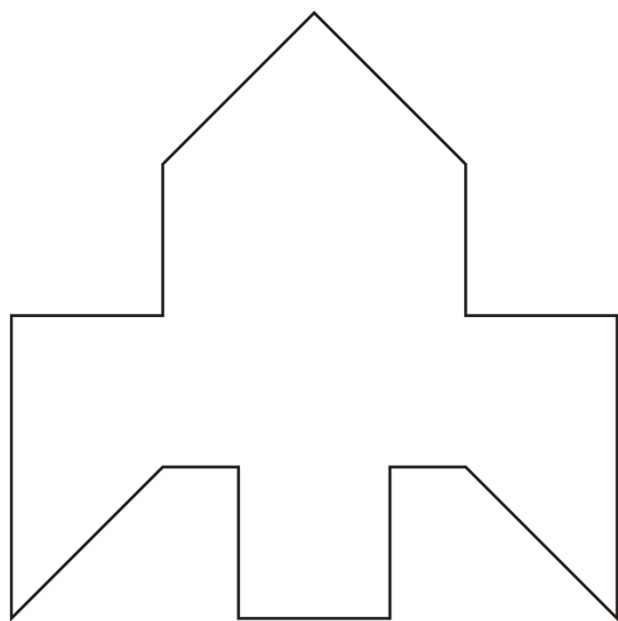


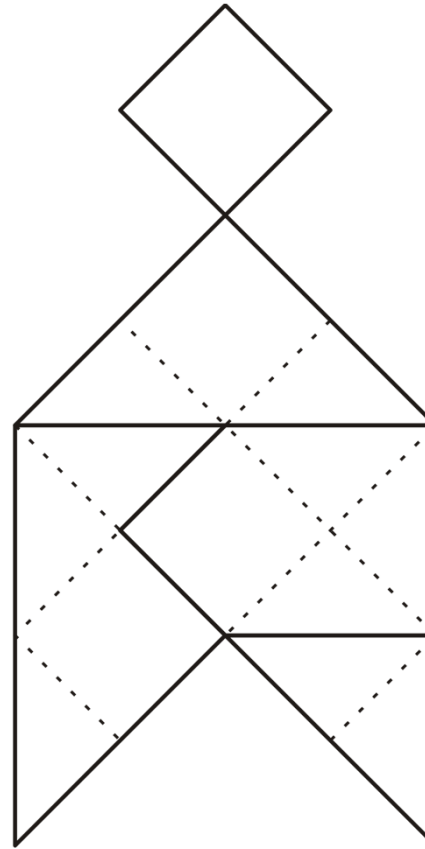
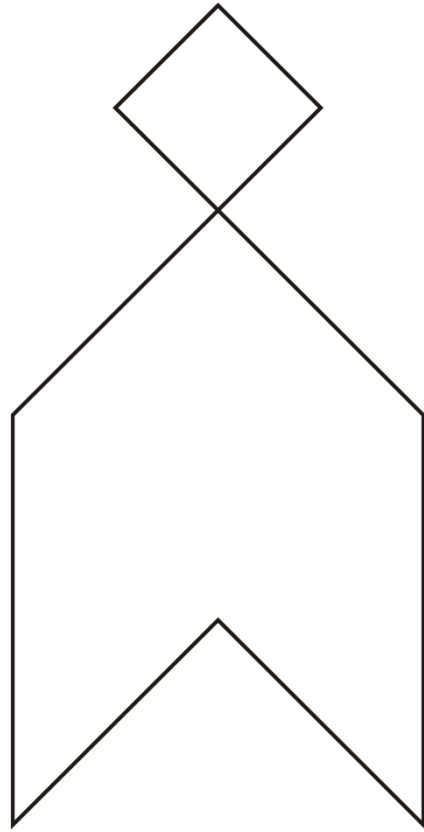
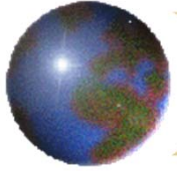
- ✿ 考慮圖中出現1,1,2邊長的排列,放山形板塊
- ✿ 再考慮放凸出的屋形板
- ✿ 其餘就不難放了

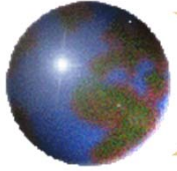


建議五：

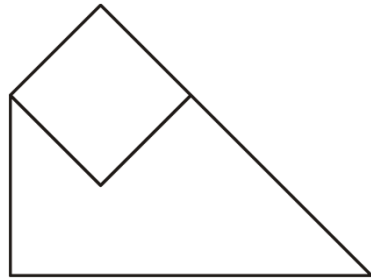
留意圖形中面積的分配



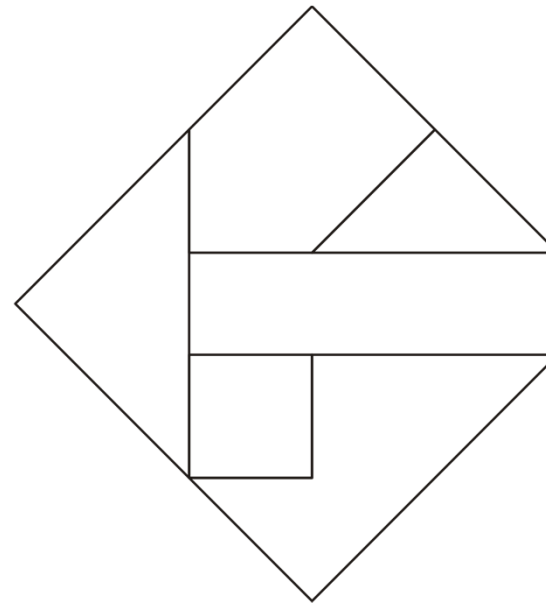
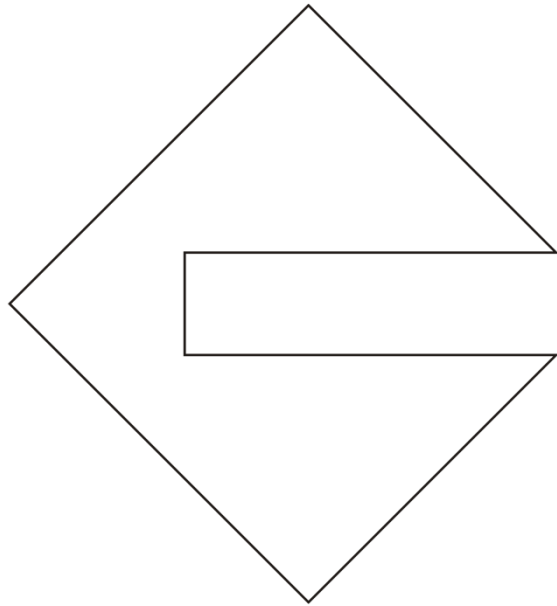
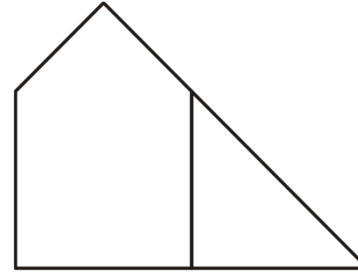


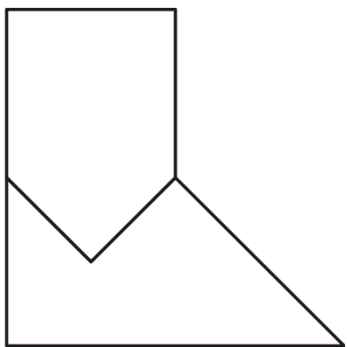
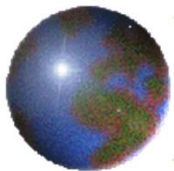


建議六：留意圖形中的隱藏的組合

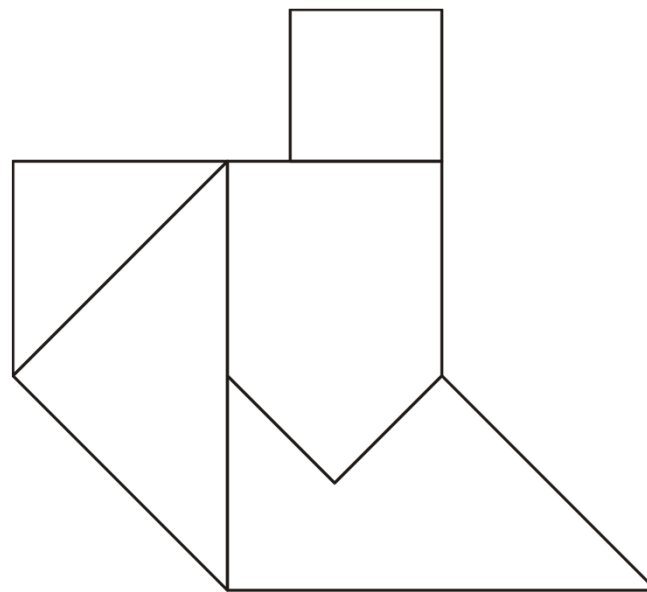
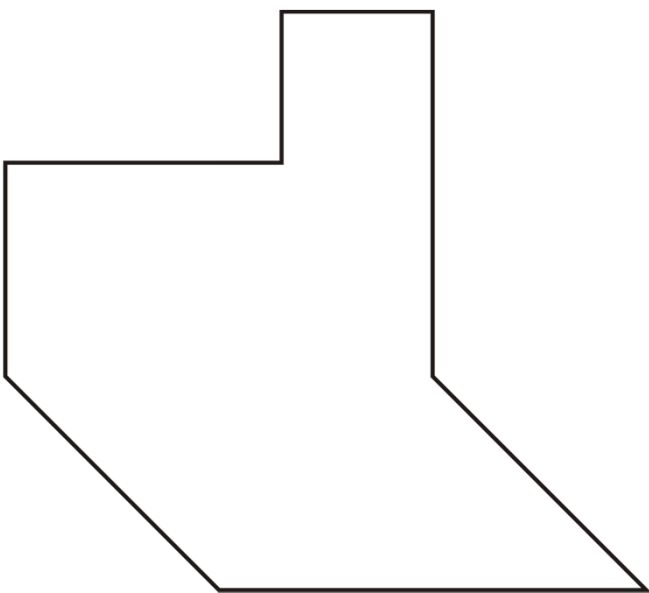


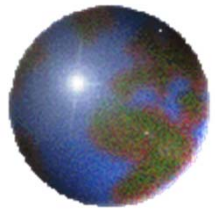
=



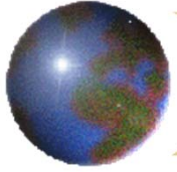


- ✪ 先放分離的正方形
- ✪ 看似一個靴形,就嘗試放這個組合.
- ✪ 其餘就不難放了



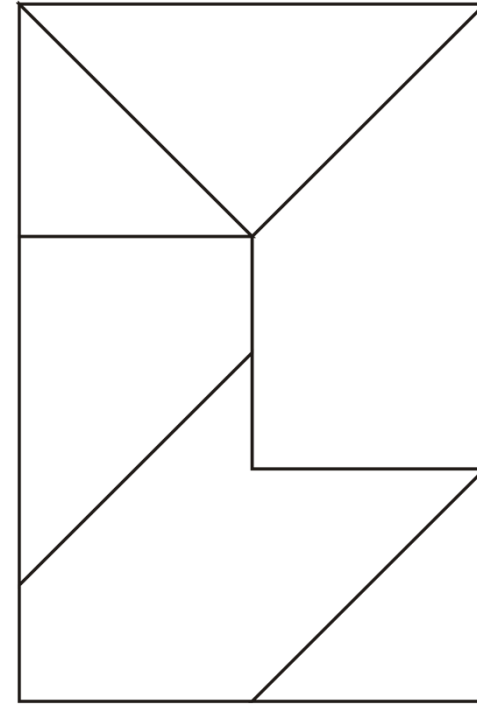


平面拼圖遊戲
之
六板拼圖



介紹六板拼圖

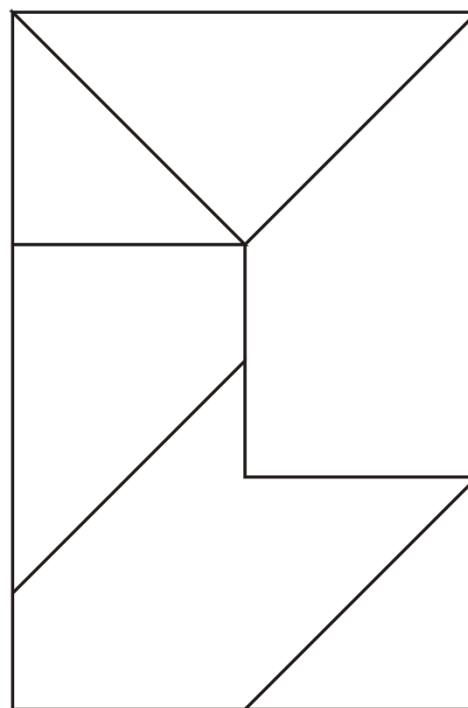
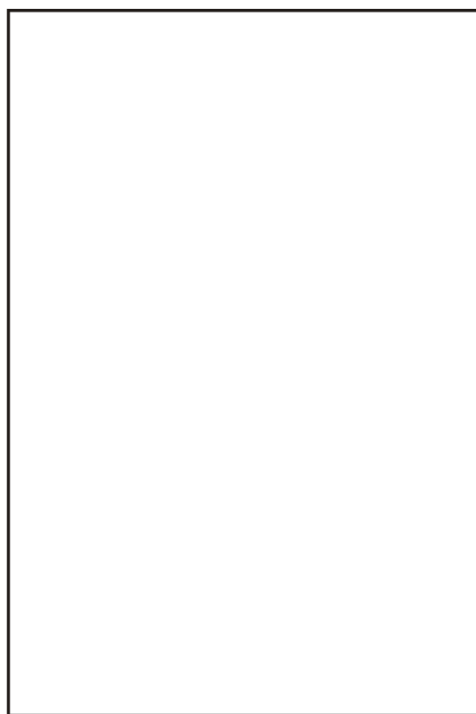
- 由六塊組件組成,包括:
- 二件小直角三角形
- 一件大直角三角形
- 一件小梯形
- 一件大梯形
- 一件不規則六邊形(稱箭形板)

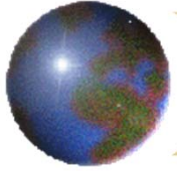




遊戲規則

利用這六件板塊以互不重疊地拼湊出指定的圖形。





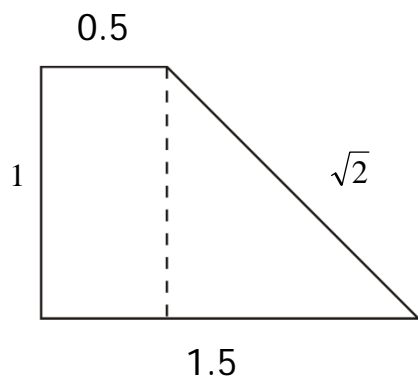
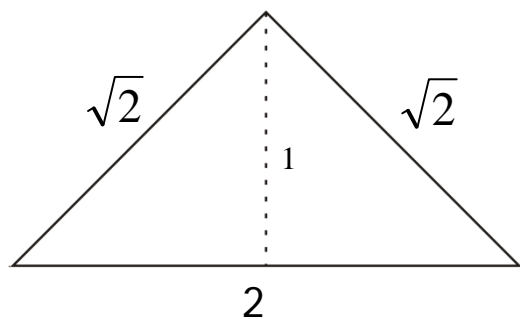
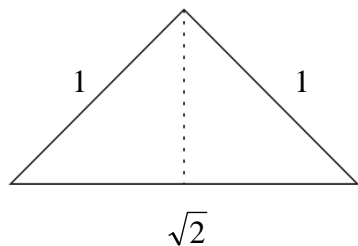
如何更有效拼湊出指定的圖形?

建議一：認識六板拼圖的基本構造

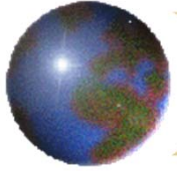
包括形狀、
邊長、
面積 及
組合



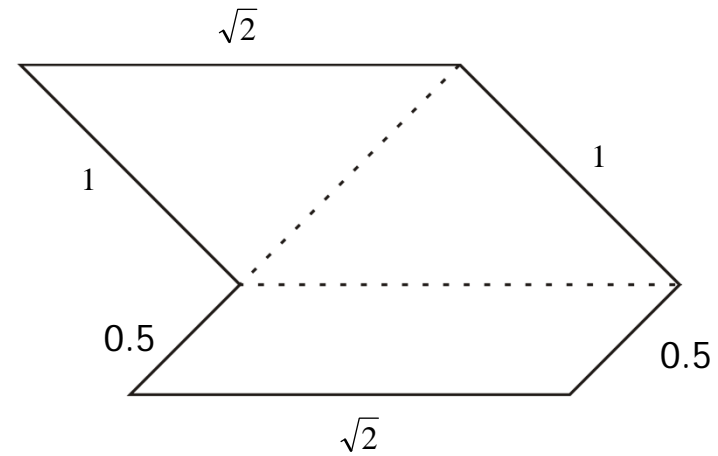
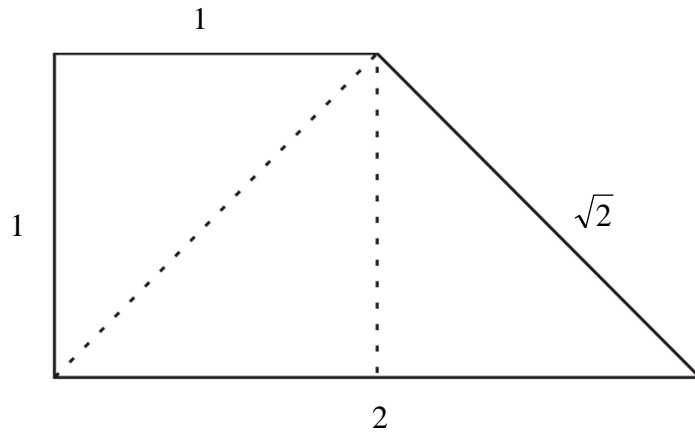
邊長:



高為1個單位,
底邊為2個單位
相等於2個小三角形

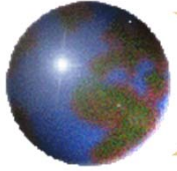


邊長:

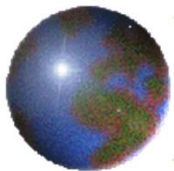


大三角形 +
小三角形

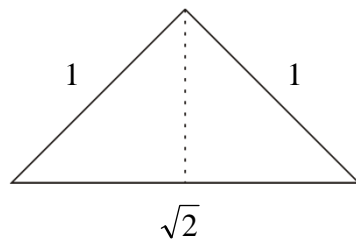
注意：小梯形的下底是1.5個單位，
不可與開方2的邊完成接合。



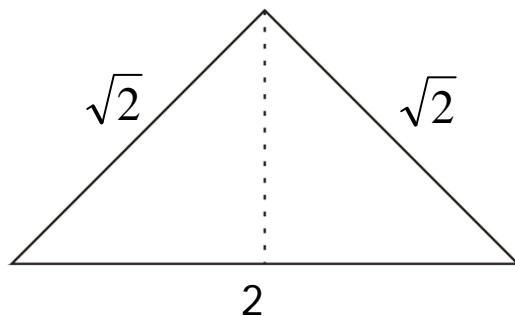
- ✦ 若以小三角形為半個基本單位
- ✦ 六板拼圖可由六個基本單位構成
- ✦ 每個拼圖的總面積一定相等



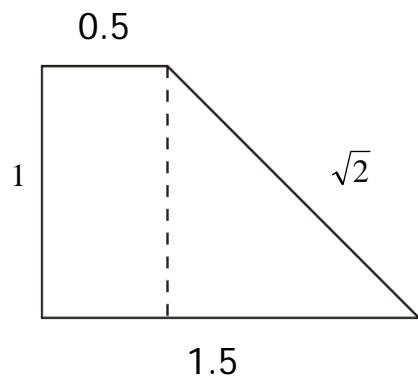
面積:



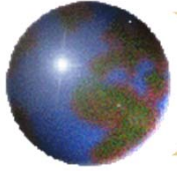
0.5個基本單位



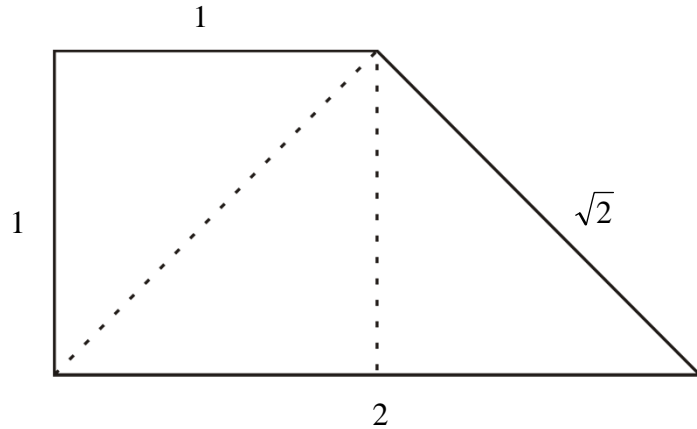
1個基本單位



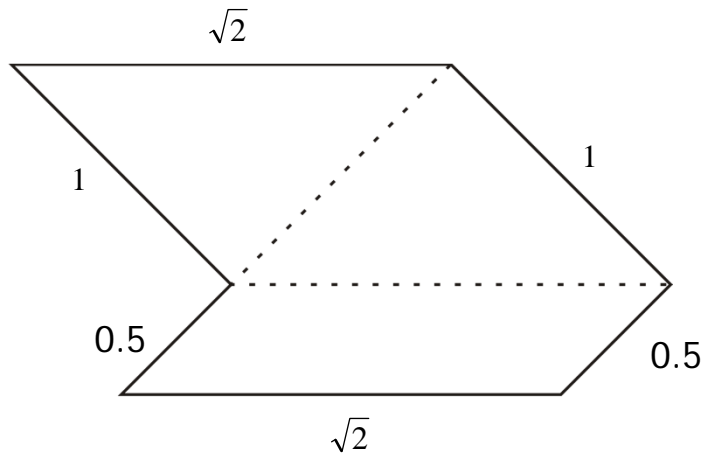
1個基本單位



面積:

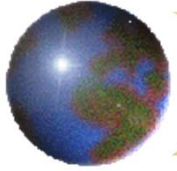


1.5個基本單位

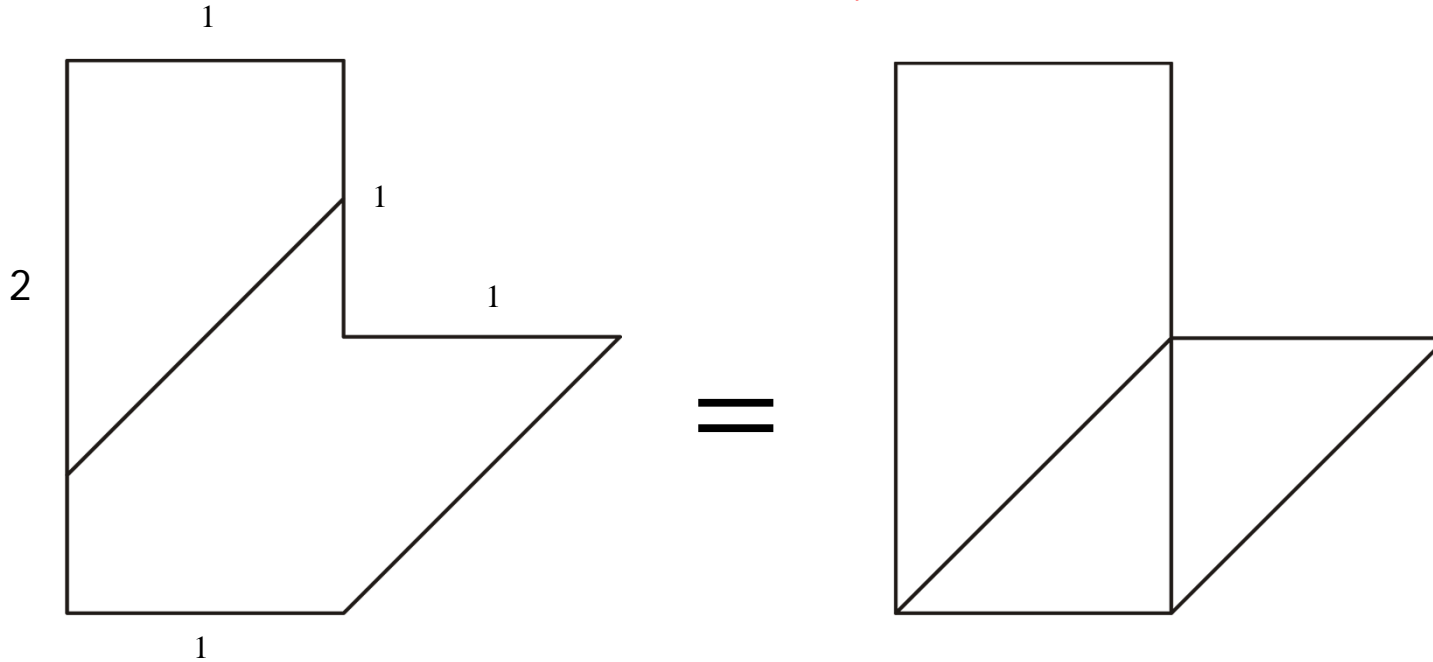


2個基本單位

六板拼圖由6個基本單位構成



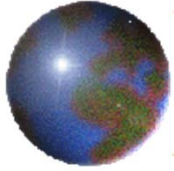
組合：與其他板塊緊緊接合，
隱藏0.5個單位的邊長。



小梯形 + 箭形板

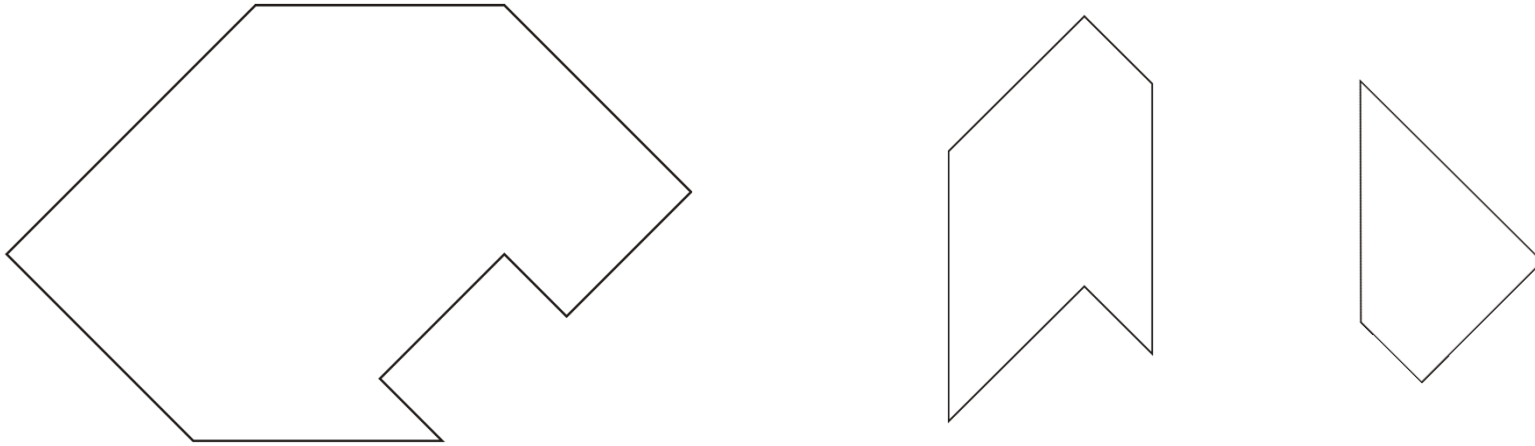
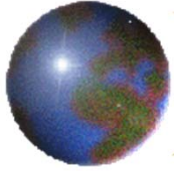
大梯形 + 兩個小三角形

佔3個基本單位

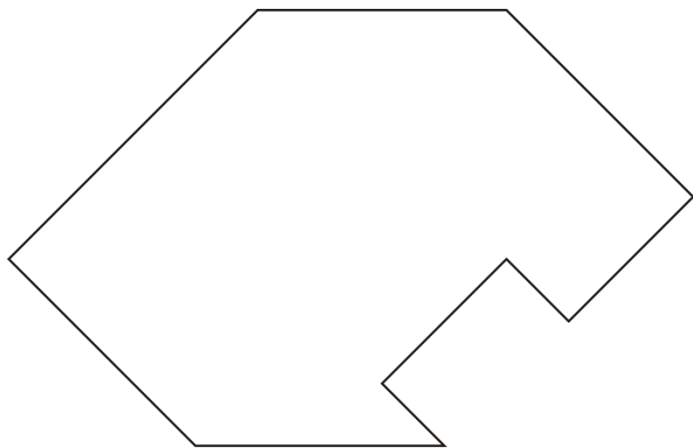


建議二：

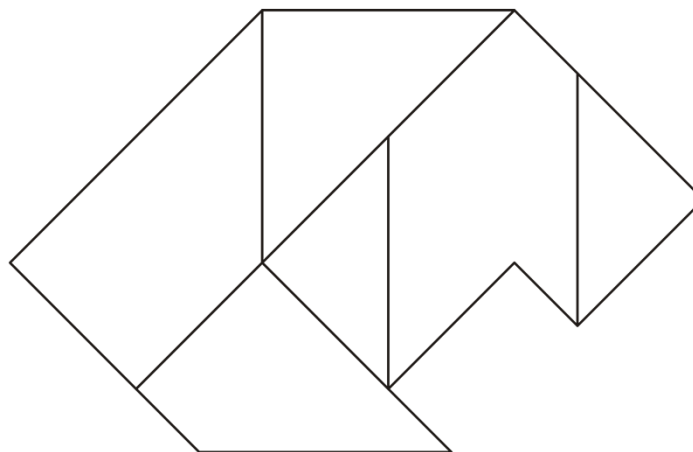
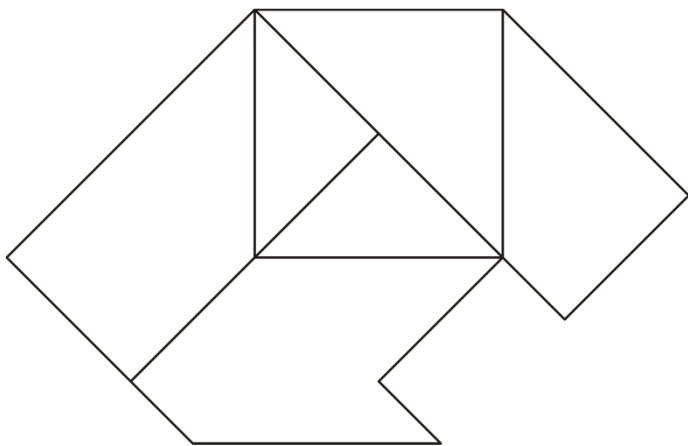
考慮0.5個單位的邊，
嘗試尋找箭形板或小梯形，
可擺放的位置。

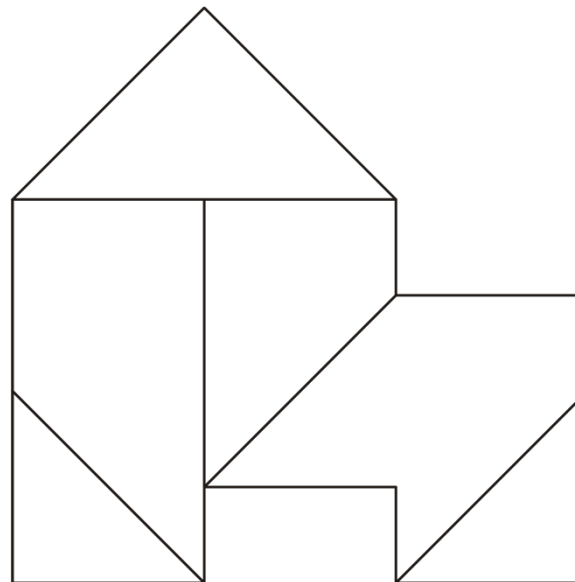
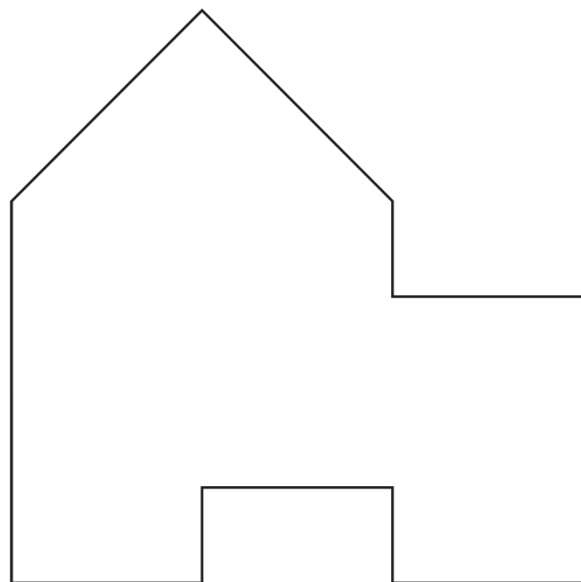
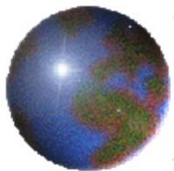


- ⊕ 考慮0.5個單位的邊
- ⊕ 可放小梯形或箭形板
- ⊕ 考慮0.5及1個單位的邊,就必放箭形板
- ⊕ 另外考慮尖角,更適合放箭形板
- ⊕ 其餘就不難放了

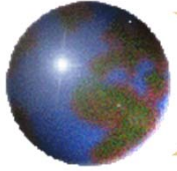


- 考慮0.5及1個單位的邊
- 箭形板的另一個放法
- 其餘亦不太難放

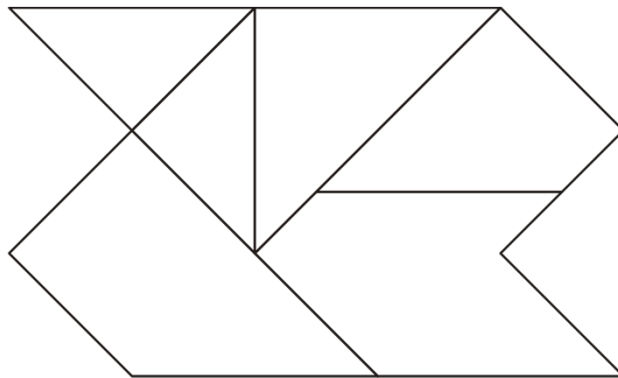
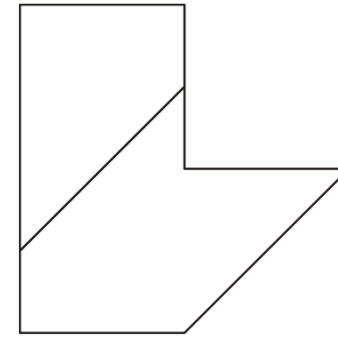
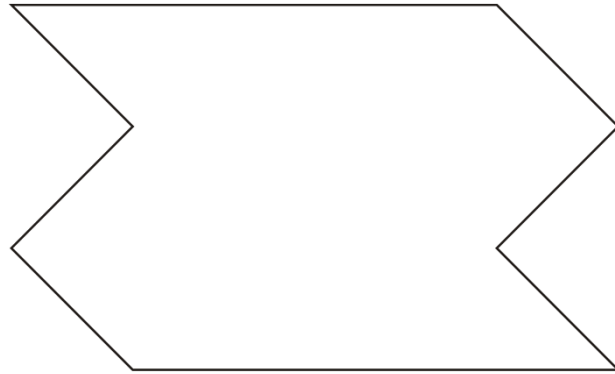




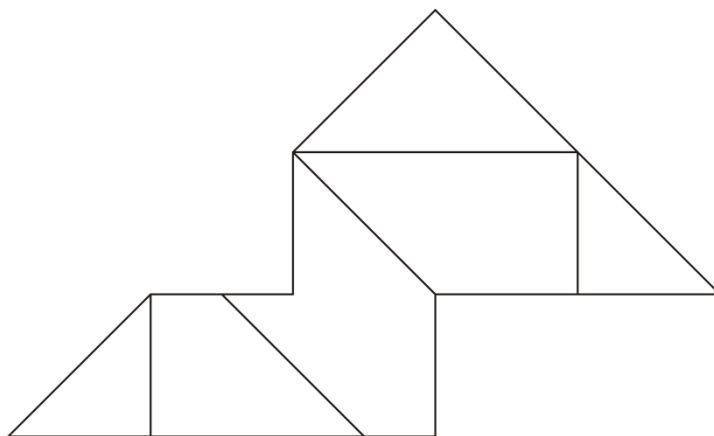
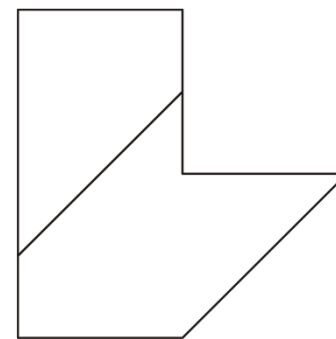
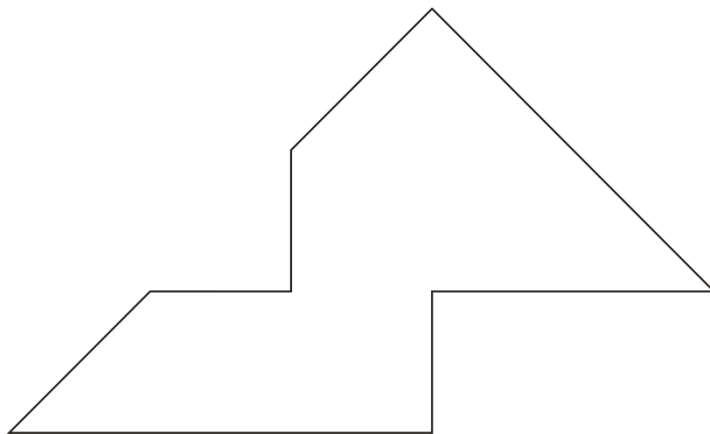
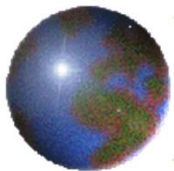
- ✿ 有3條0.5個單位的邊
- ✿ 考慮一對0.5及1個單位的邊,放箭形板最適合
- ✿ 左上角的0.5個單位的邊,可放小梯形
- ✿ 另外最頂放大三角形,其餘就不難放了



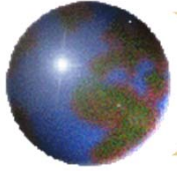
建議三：留意圖形中的隱藏的組合



- 有6條1個單位的邊
- 其中3條可考慮放靴形板
- 其餘就不難放了

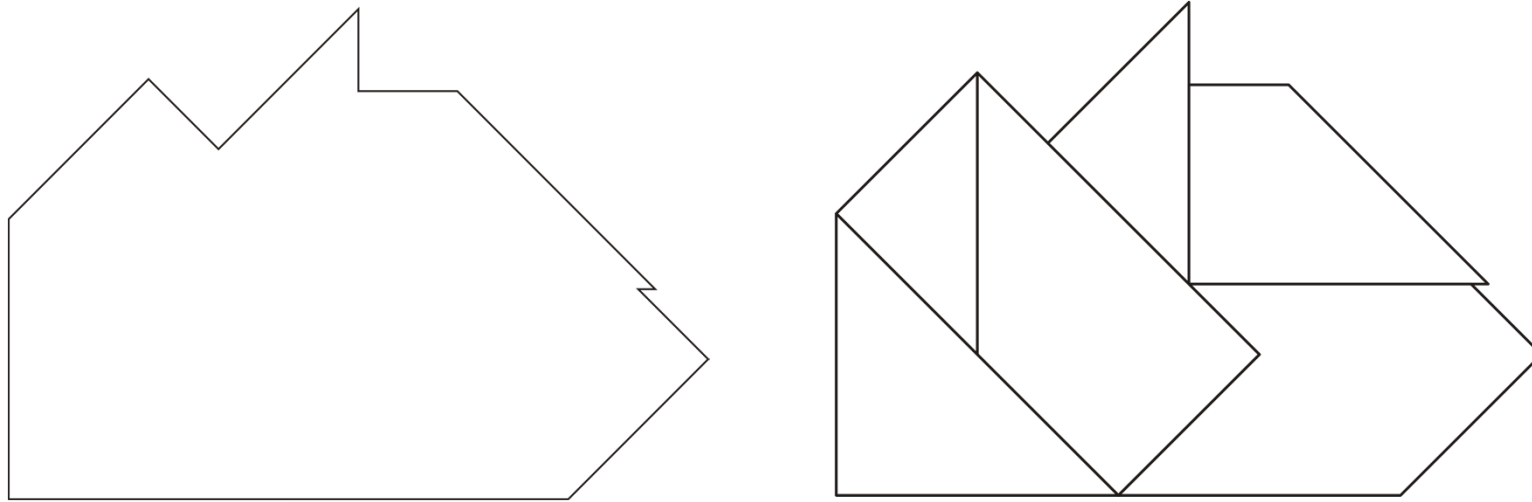


- 有3條1個單位的邊
- 放靴形板最適合
- 其餘就不難放了



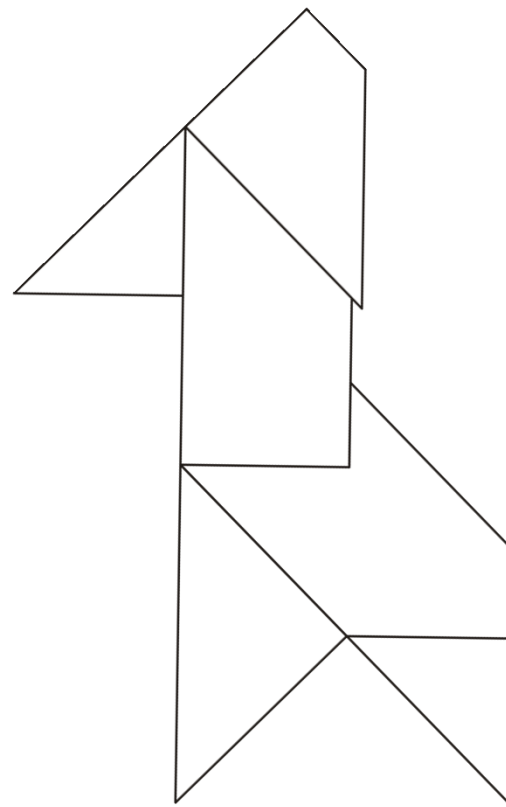
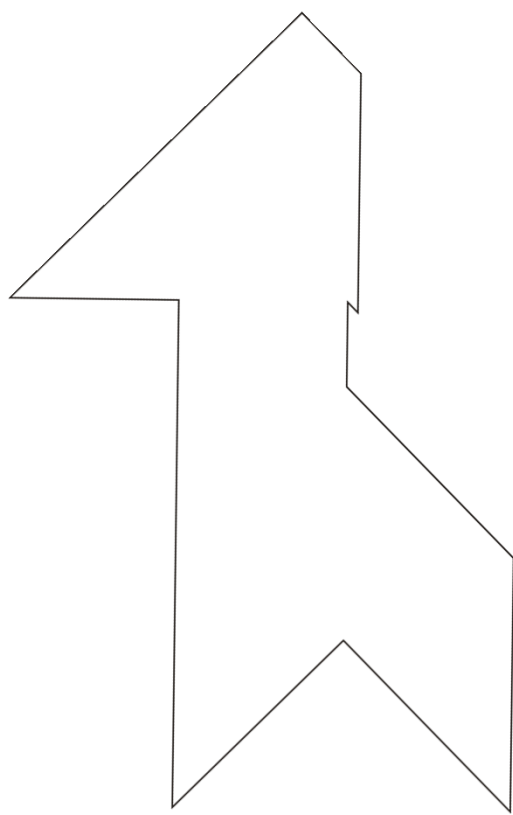
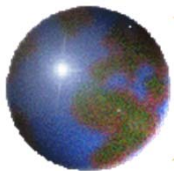
建議四：

留意圖形中的連接位置是否完整拼合



- ✦ 有不完整拼合好的位置
- ✦ 正是小梯形的1.5個單位的底邊

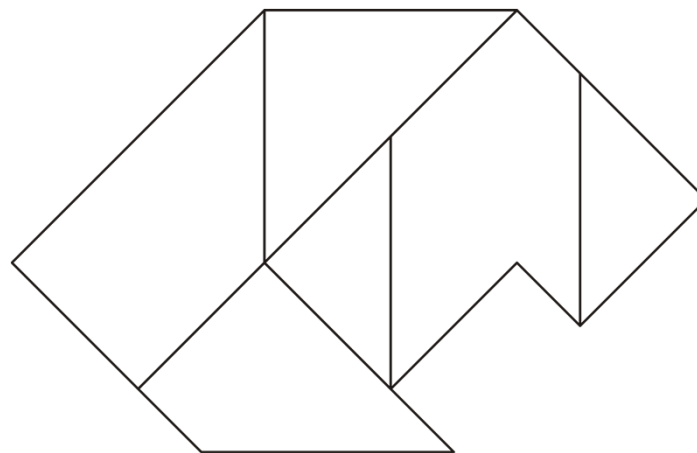
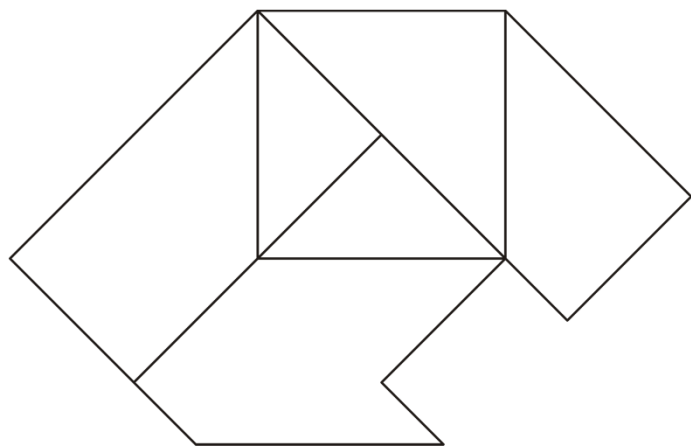
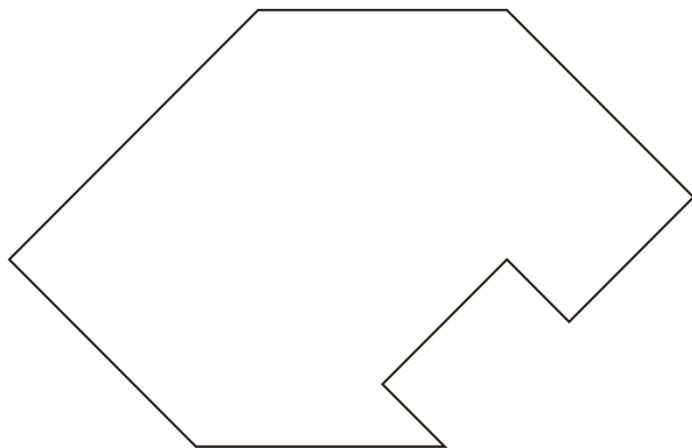
注意：小梯形的下底是1.5個單位，
不可與開方2的邊完成接合。

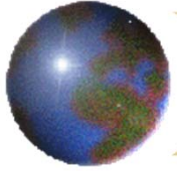


- 有不完全拼合好的位置
- 正是小梯形的1.5個單位的底邊



建議五：一圖多種拼湊方式。





練習

