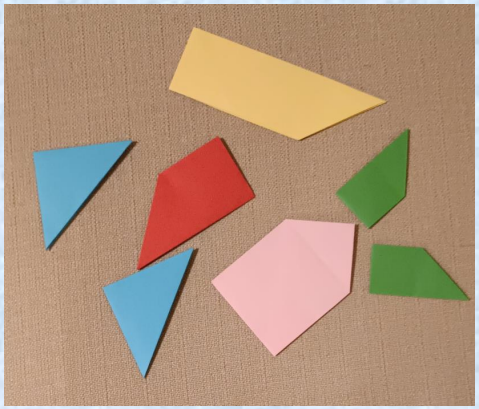
OriDidaZoom

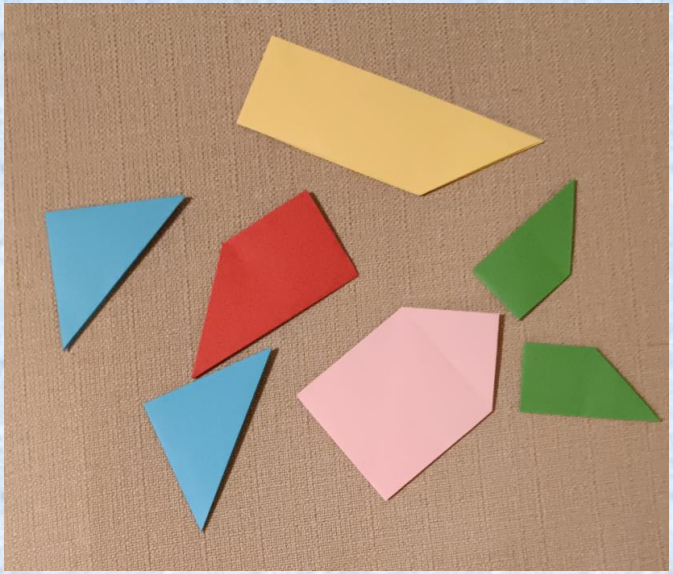
Incontri online sulla didattica con l'origami

Cross puzzle: un Tangram alternativo



di Francesco Decio e Stefania Serre

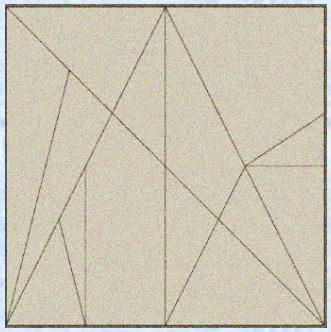
In sette pezzi…



Un po' di storia dei puzzle

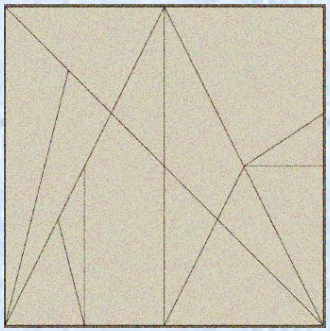
1767 - **John Spilsbury** (cartografo e precettore)

III sec. A.C. - **Archimede –** Palinsesto 'Codice C' ritrovato nel 1899, attribuito nel 1906



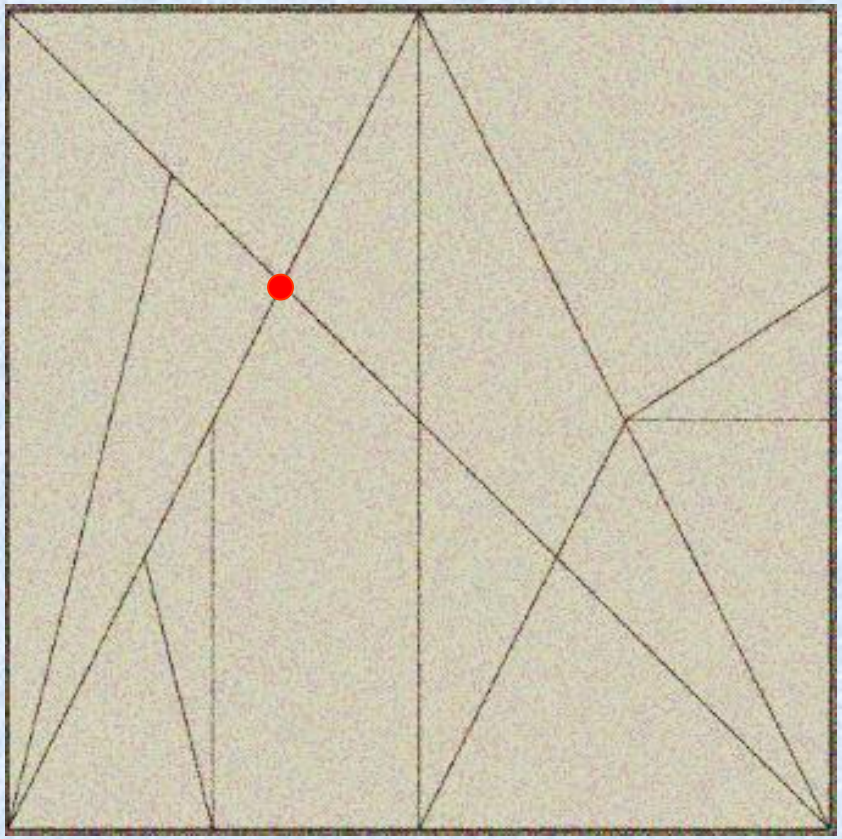
Lo Stomachion

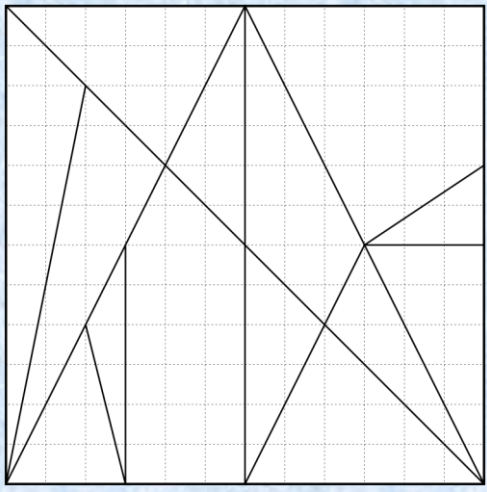
Nel 2003 grazie all'uso del computer è stato dimostrato che è possibile formare 536 quadrati diversi.



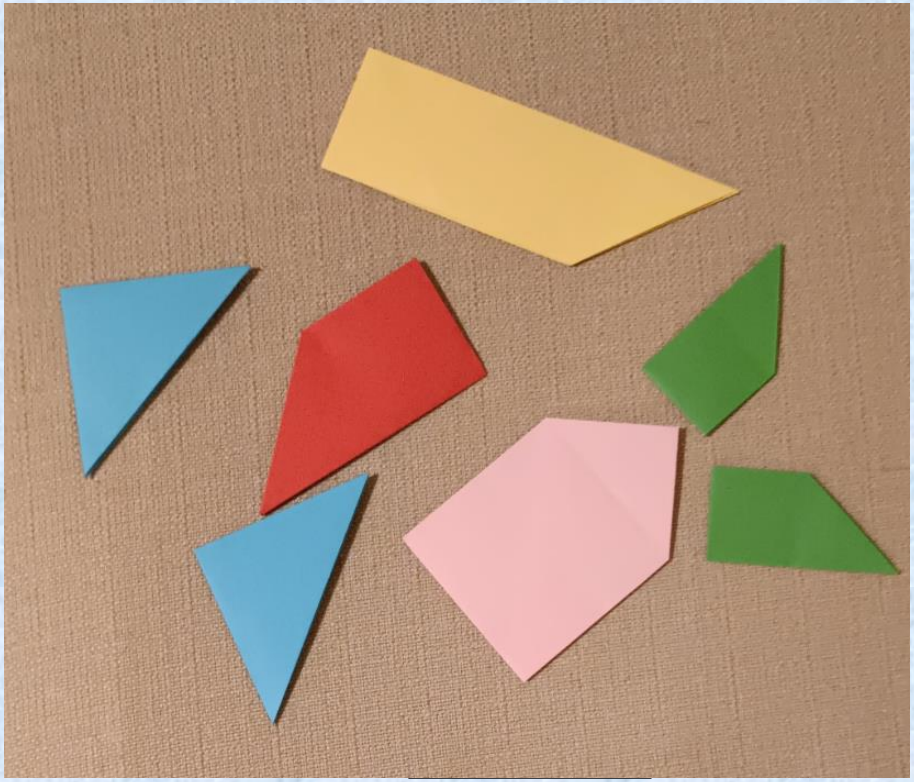
III sec. A.C. - **Archimede**
ritrovato nel 1899, attribuito nel 1906

Lo Stomachion



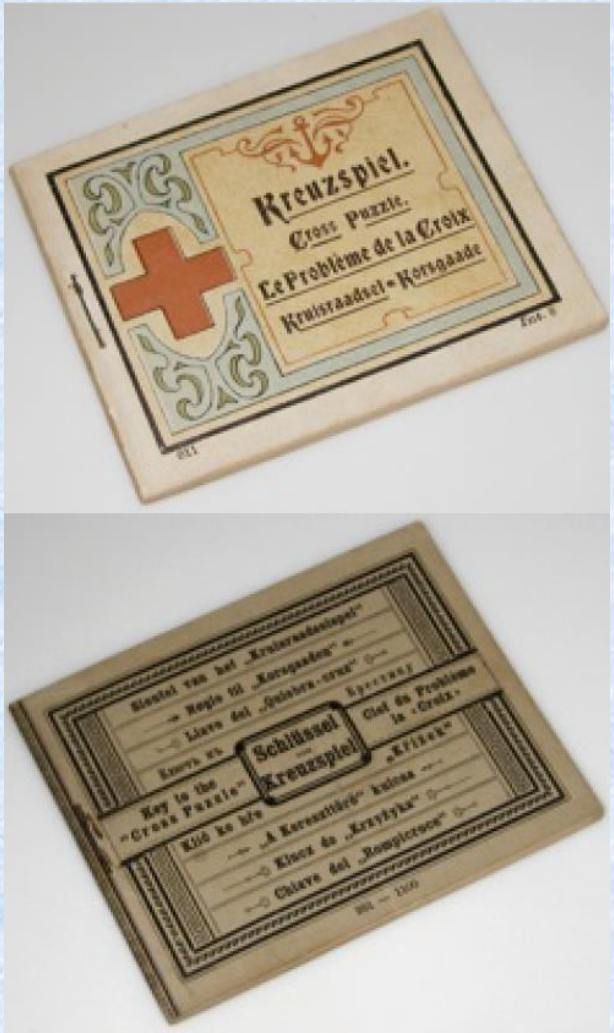


Cross Puzzle



Cross Puzzle

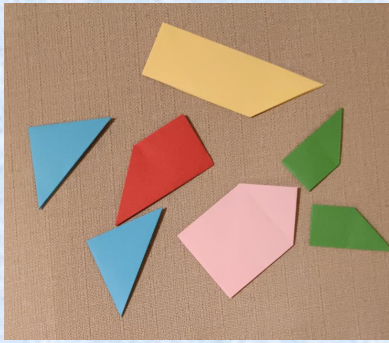
Cross Puzzle



Sherlock Holmes

Richter Anchor Stone Puzzle No. 10

Prima realizzazione da parte della ditta *F. Ad. Richter & Co.* : 1892



Tangram

Richter Anchor Stone Puzzle No. 8

Prima realizzazione da parte della ditta *F. Ad. Richter & Co.* : 1890

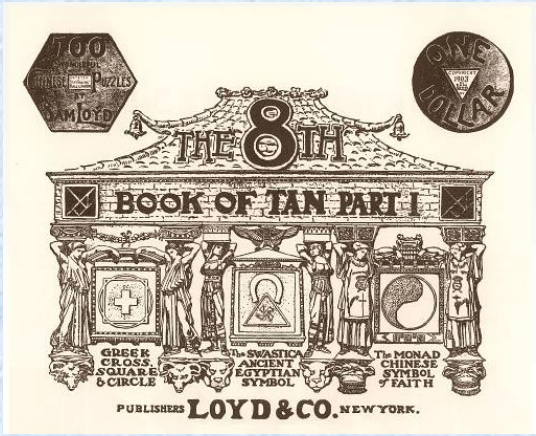
Tangram

Qi Qiao Tu (fine 1700)

Sette pietre della saggezza

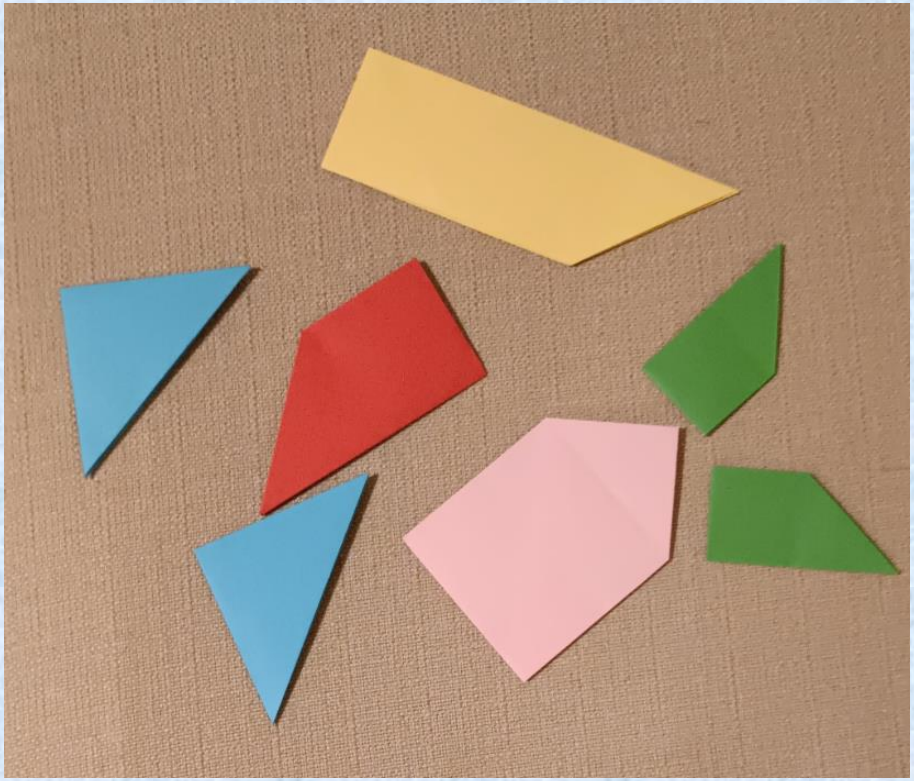
Tangram **(inizio 1800)**

Tang + γράμμα

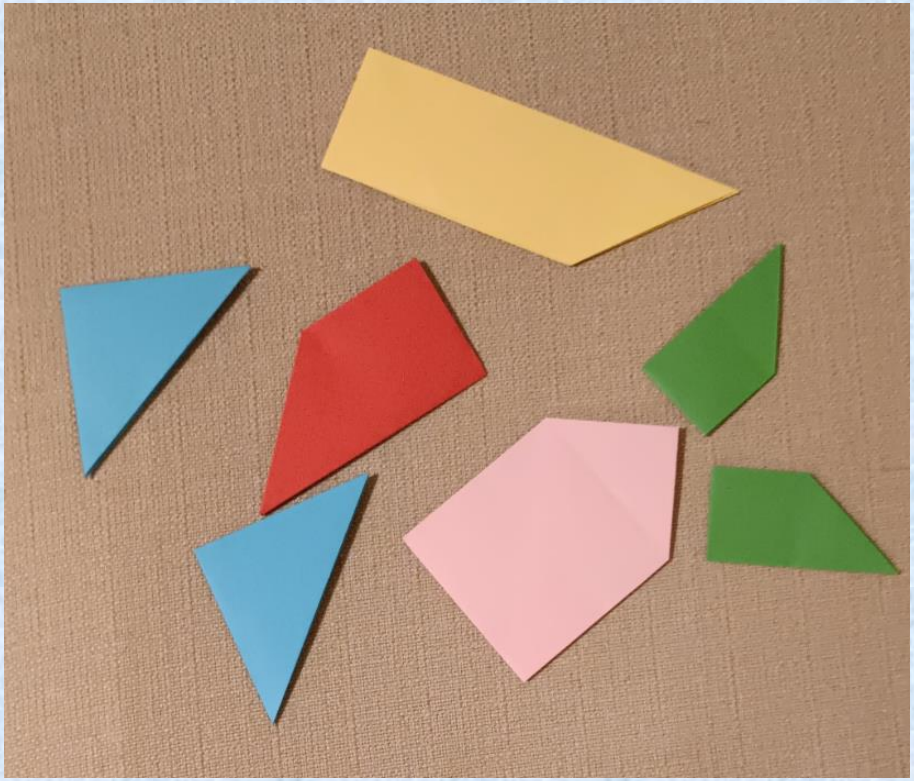


'The 8th Book of Tan', **Sam Loyd, 1903**

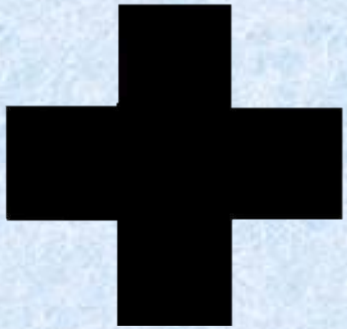
Si piega!



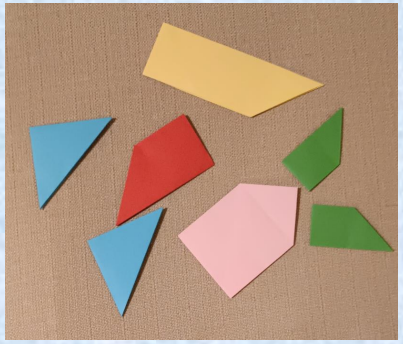
Quali poligoni?



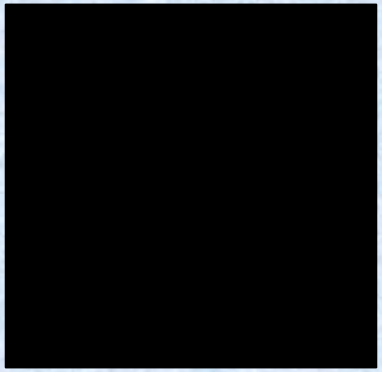
Configurazioni



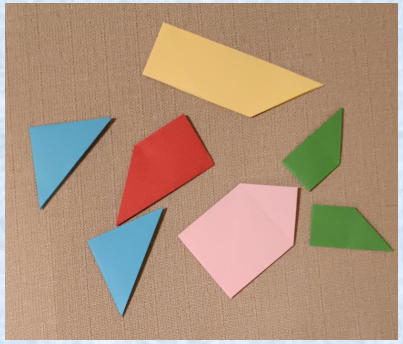
La croce



Configurazioni



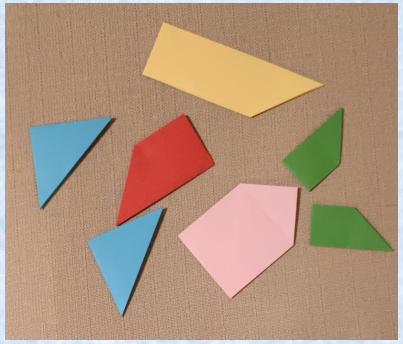
Un quadrato è possibile?



Configurazioni

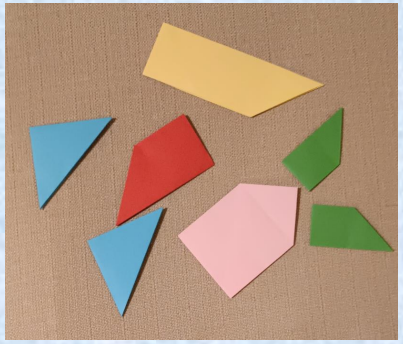
?

E’ possibile un rettangolo?

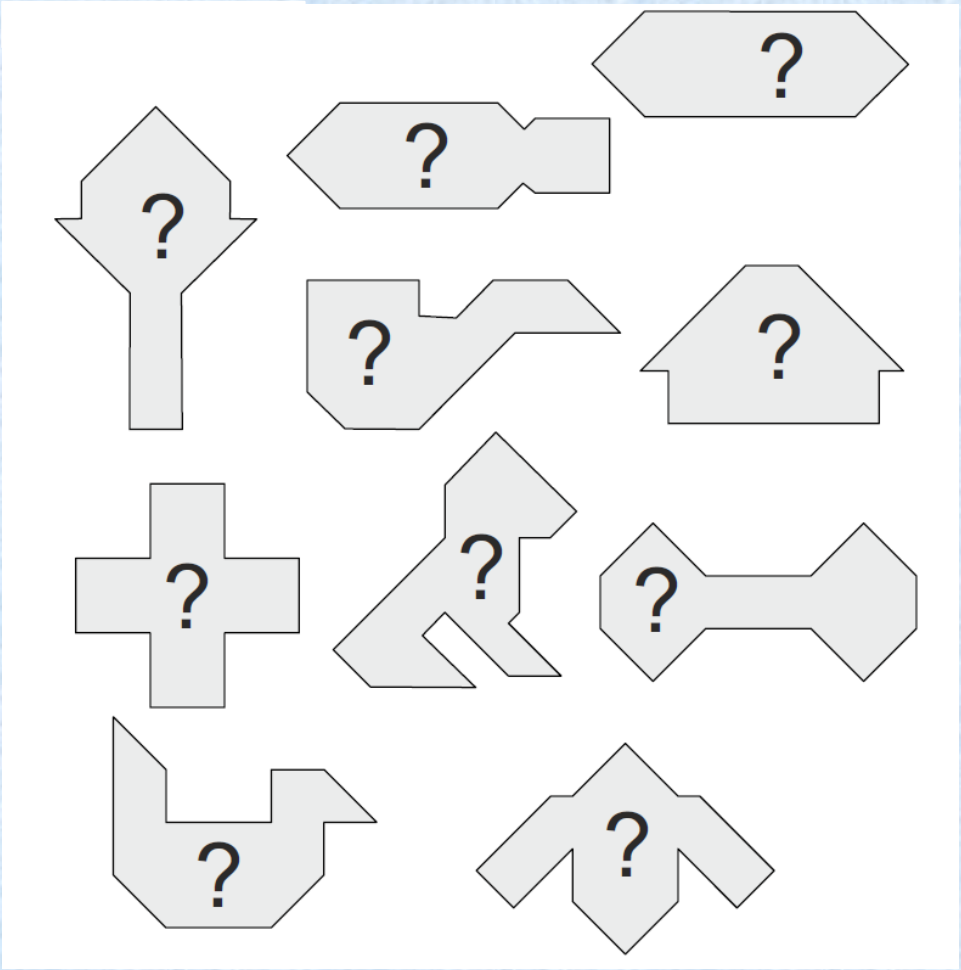


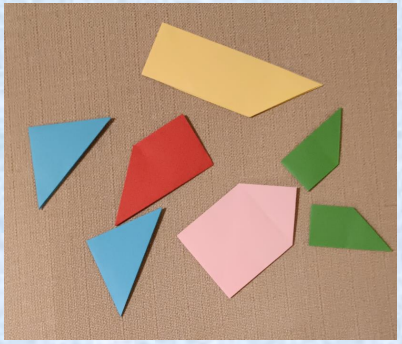
Configurazioni

Sono possibili due esagoni irregolari!

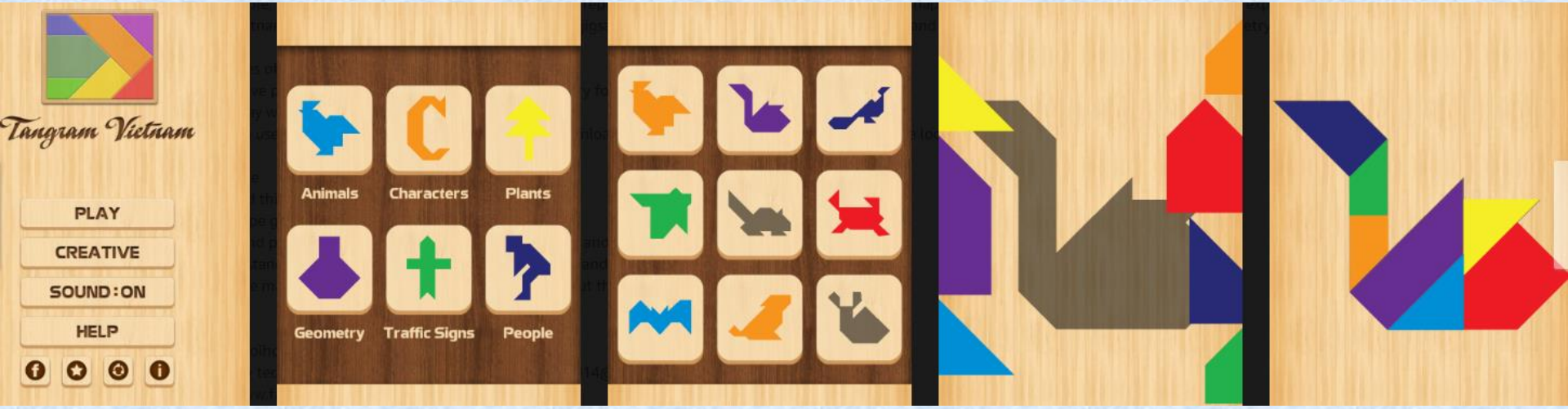


Configurazioni

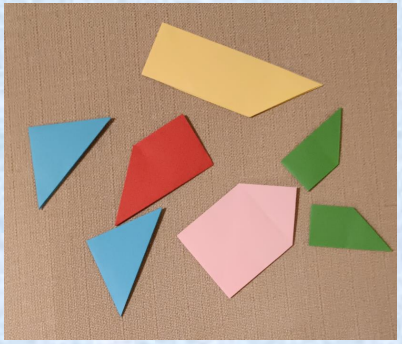




Configurazioni

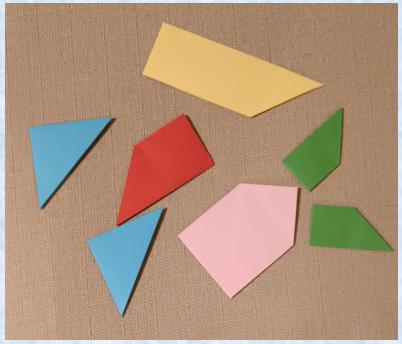


App Kindle Amazon



Configurazioni

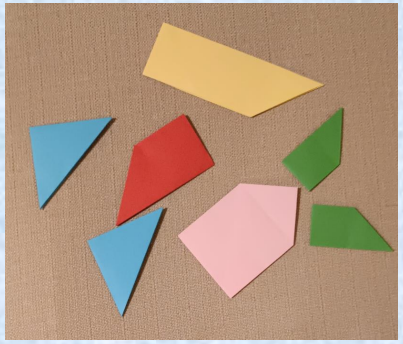
App Kindle Amazon



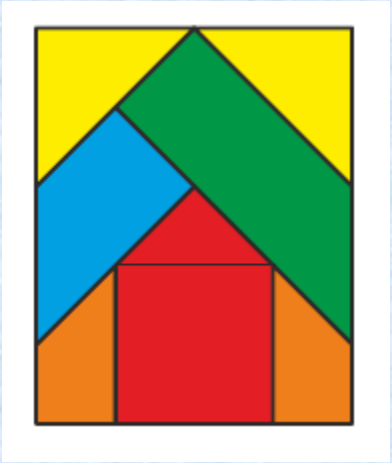
Configurazioni

!

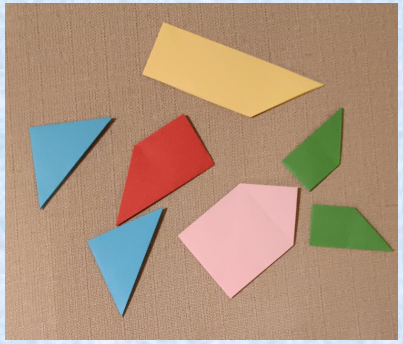
E’ possibile un rettangolo!



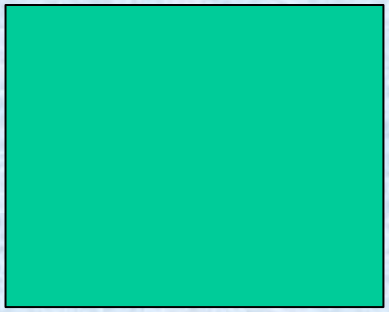
Configurazioni



E’ possibile un rettangolo!



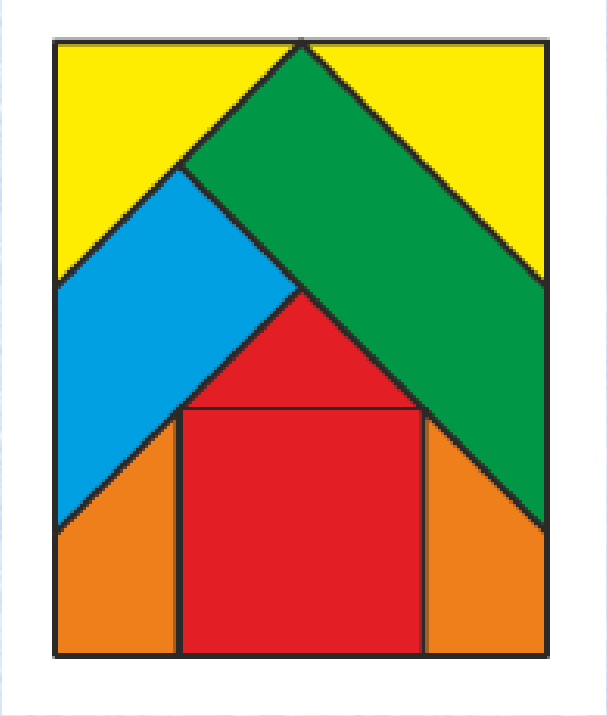
Rapporti e proporzioni



Il rapporto tra i lati del rettangolo è 4:5

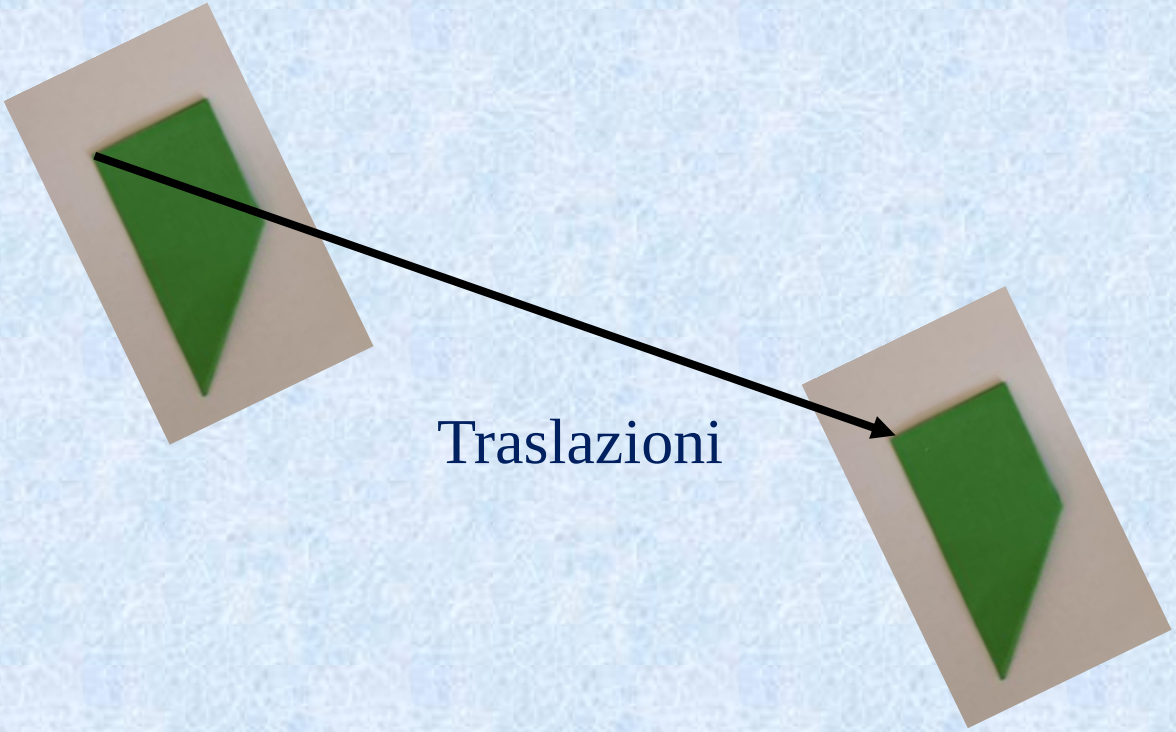
Un quadrato dovrebbe avere lato proporzionale a $2\sqrt{5}$, ma… per il nostro puzzle è impossibile!

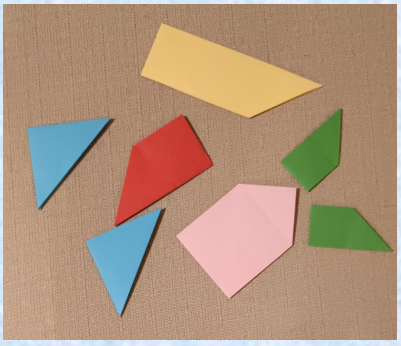
Frazioni



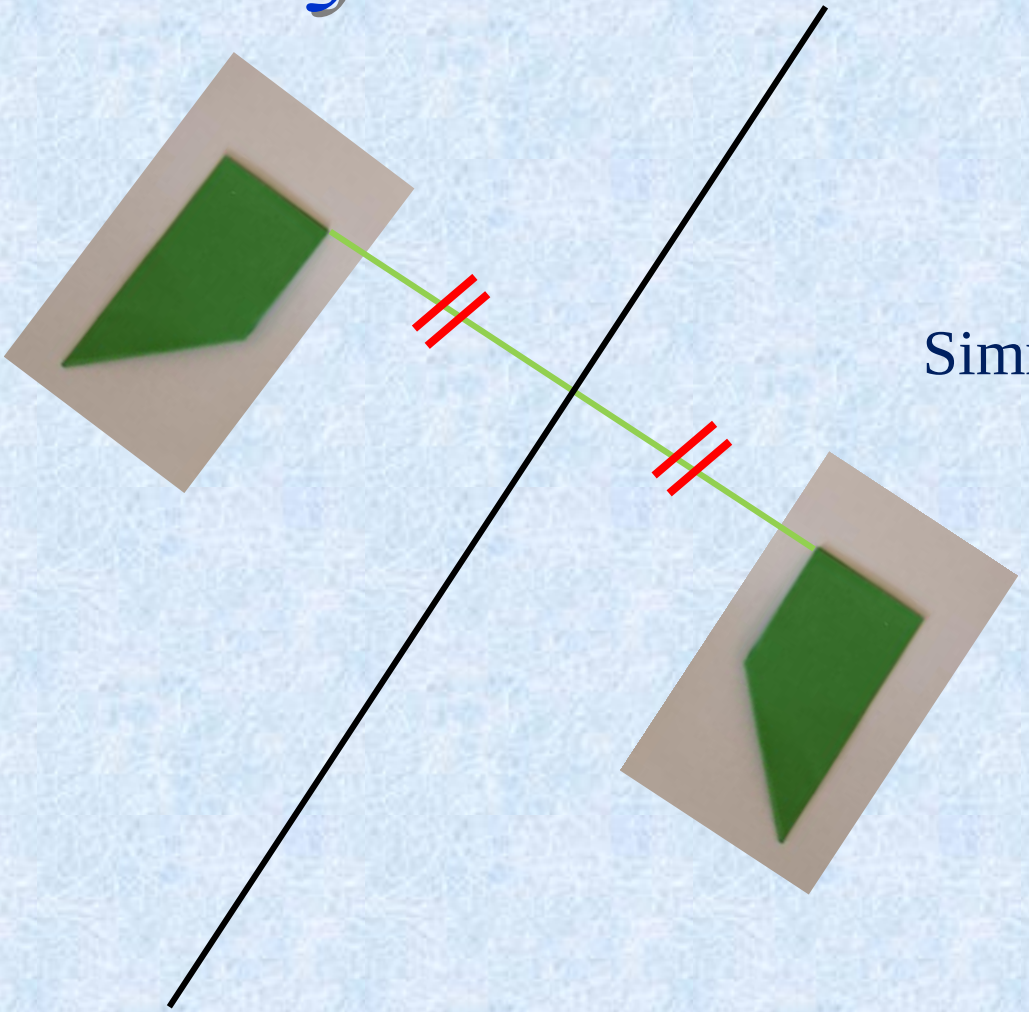
Per esplorare i rapporti tra le aree è utile una unità di misura…
contenuta un numero intero di volte in ogni pezzo del puzzle!

Trasformazioni: isometrie

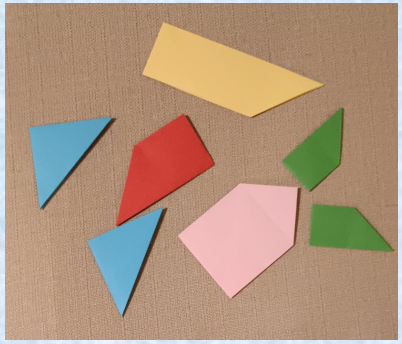




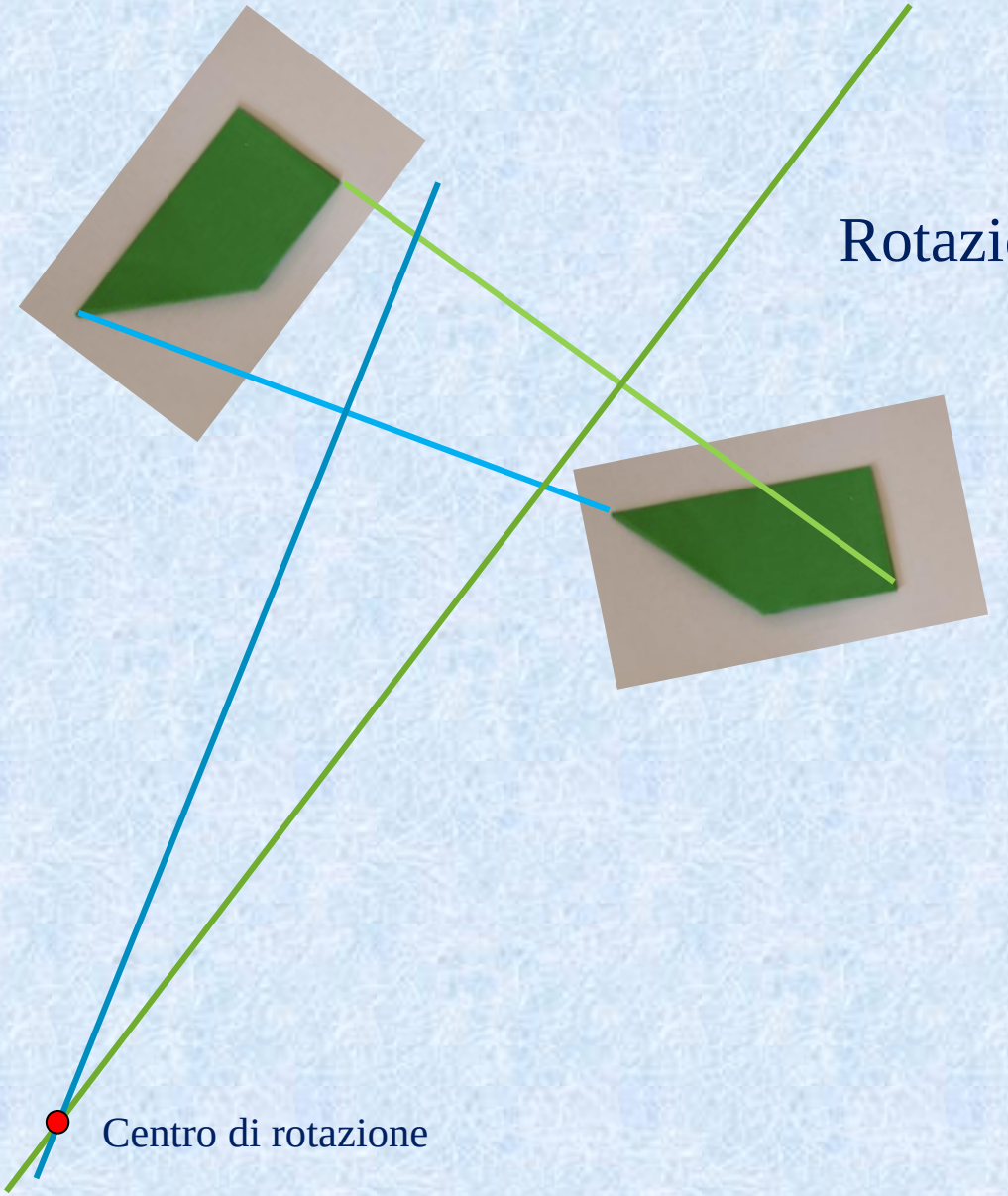
Trasformazioni: isometrie

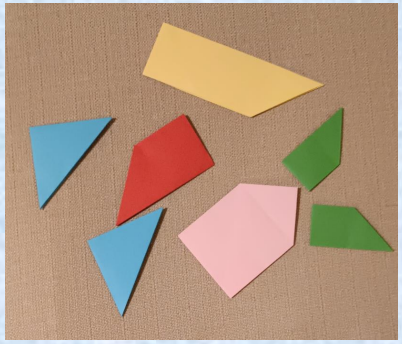


Simmetrie assiali

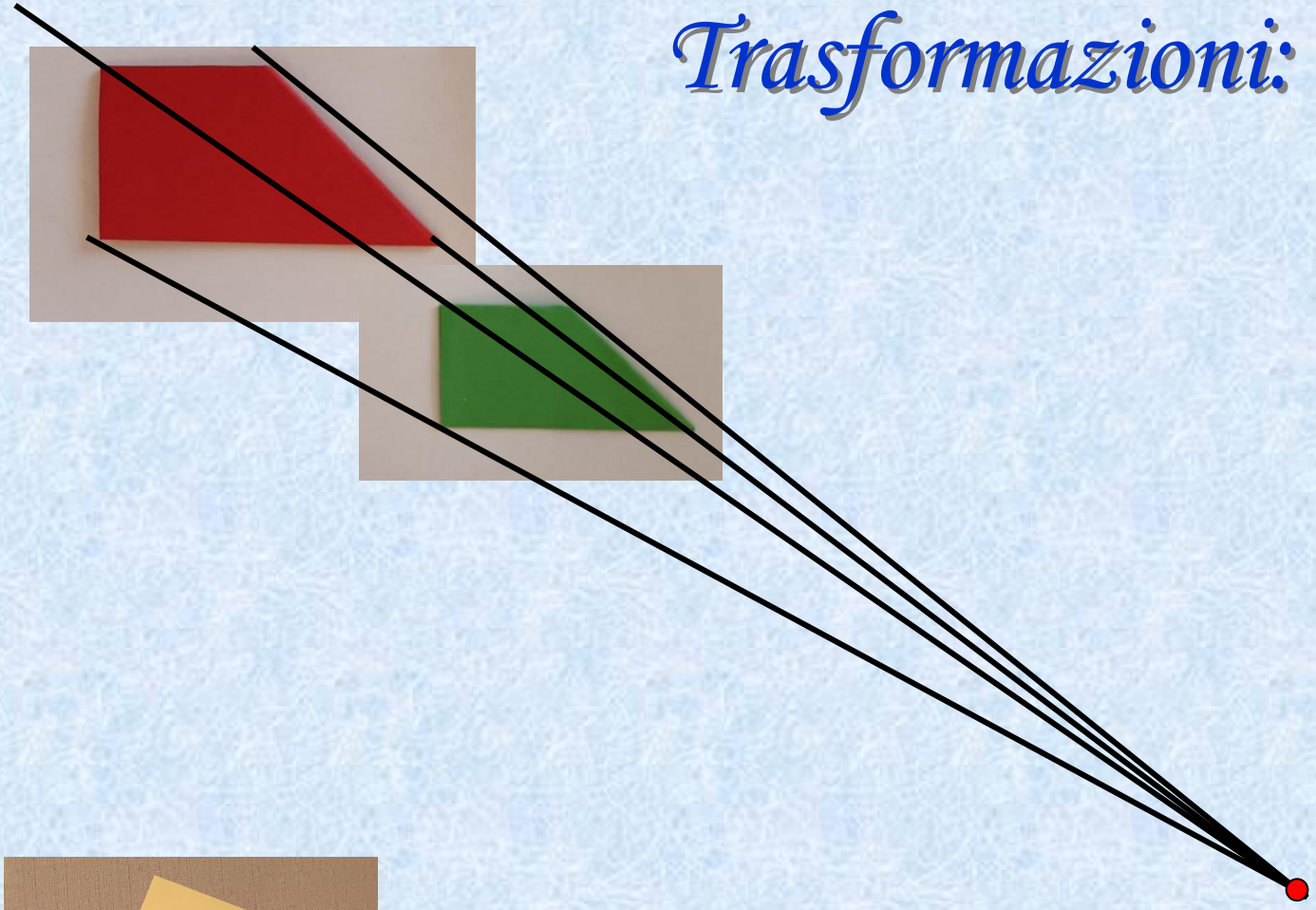


Trasformazioni: isometrie

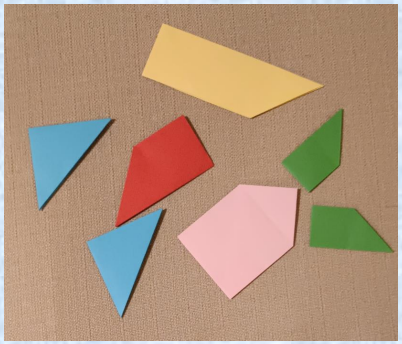




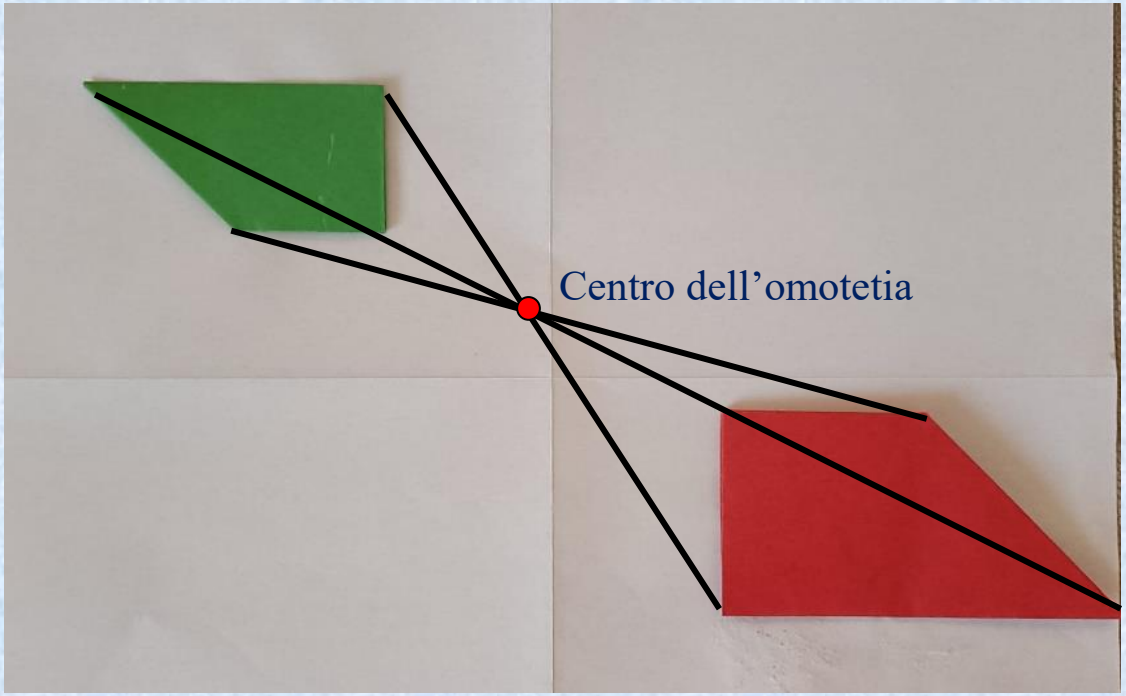
Trasformazioni: omotetie

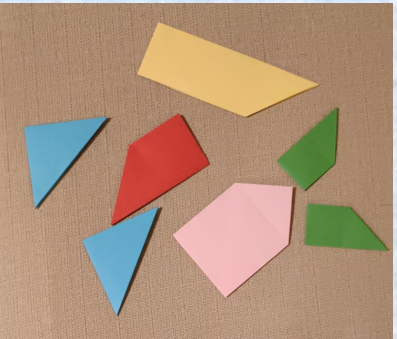


Centro dell'omotetia

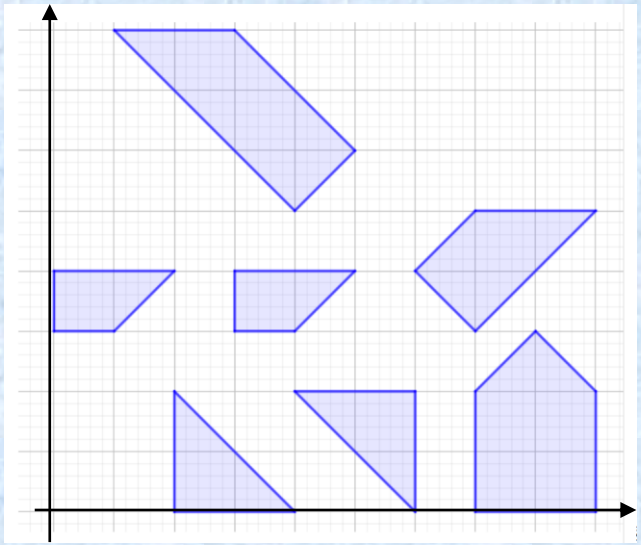


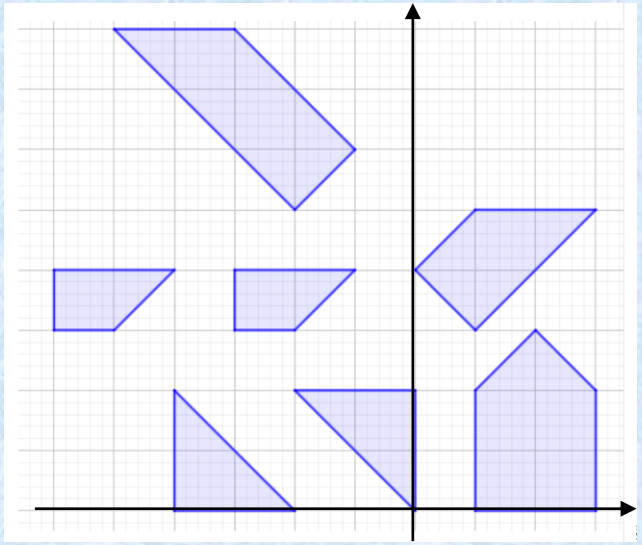
Trasformazioni: omotetie

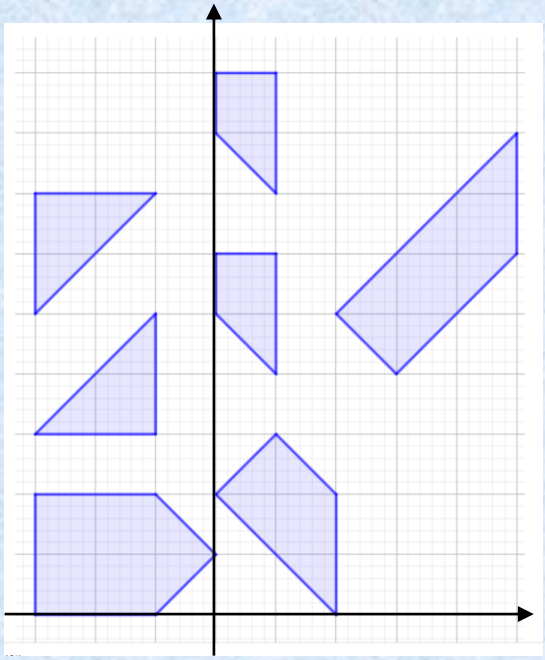




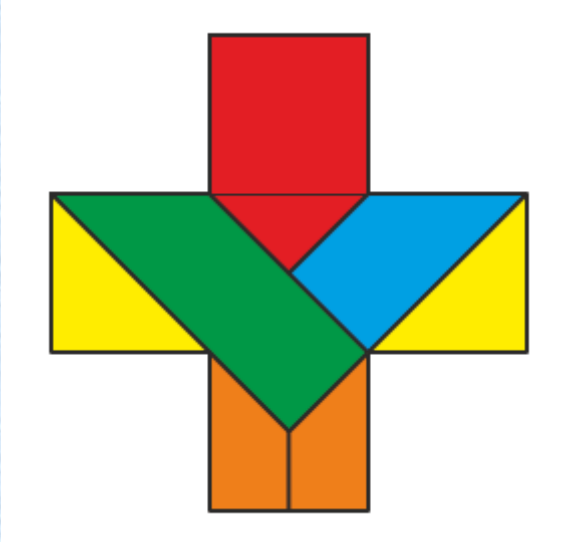
Sul piano cartesiano







Cross puzzle: un Tangram alternativo



Grazie a tutti!
Francesco e Stefania