



OriNidaZoom

Incontri online sulla didattica con l'origami

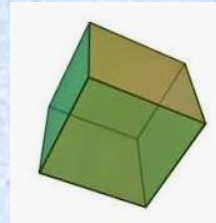
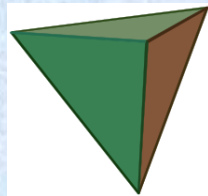
Forme diverse, volumi equivalenti

di Francesco Decio e Stefania Serre

Volume dei poliedri

In generale non è affatto detto che poliedri che abbiano lo stesso volume siano equiscomponibili

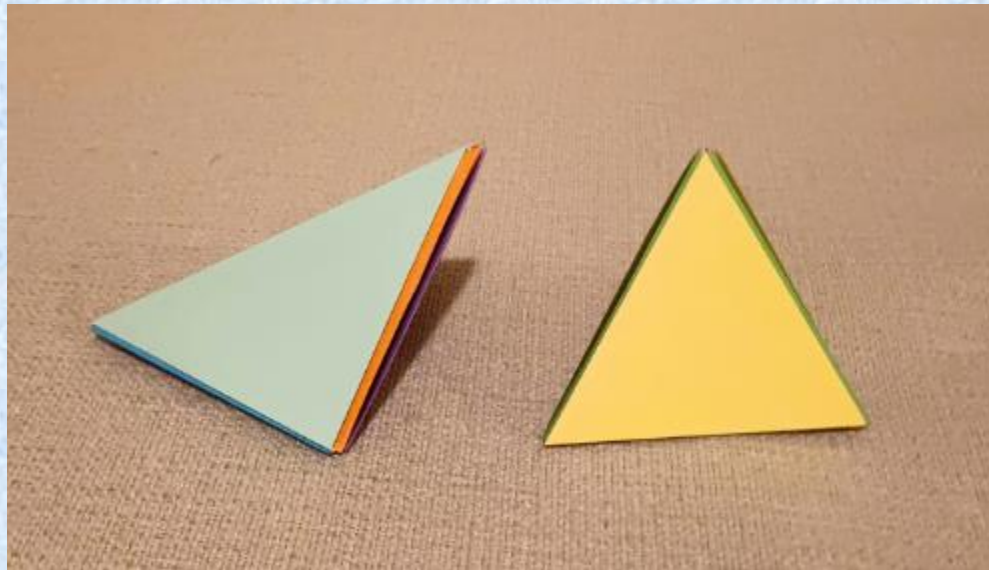
Teorema di Dehn



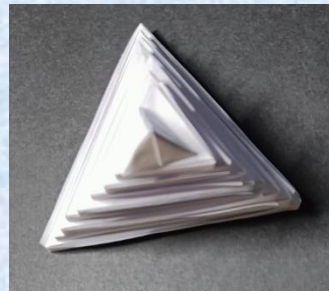
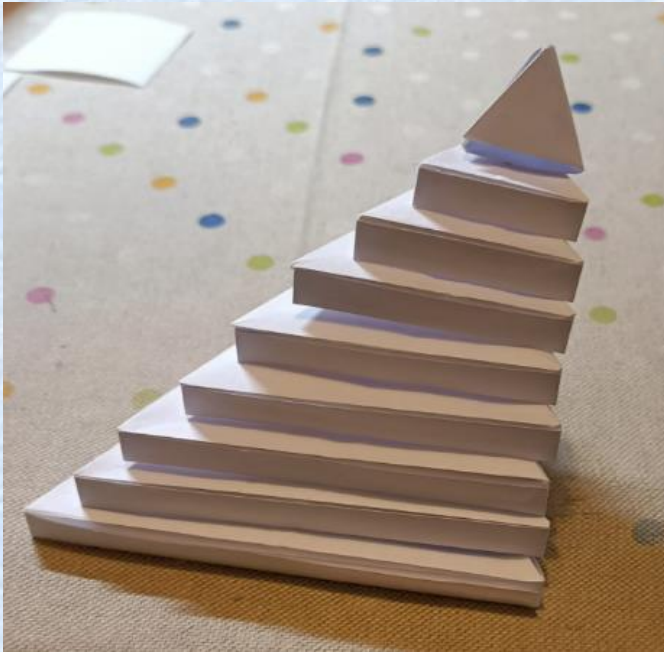
Ad esempio il tetraedro regolare e il cubo (di ugual volume) non lo sono.

Ampiezza degli angoli diedri: sono incommensurabili

Due tetraedri molto speciali



Principio di Cavalieri



Stessa altezza?



Angolo diedro $70^{\circ} 31'$ [$\alpha = \arccos 1/3$]

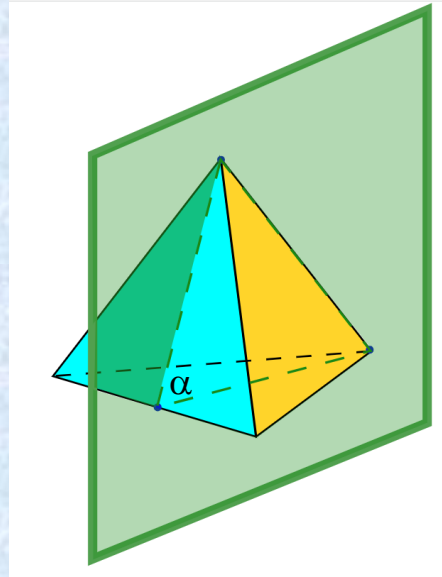
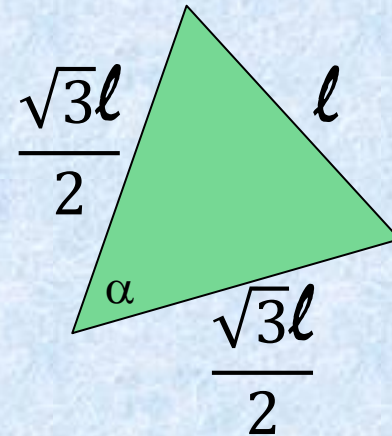


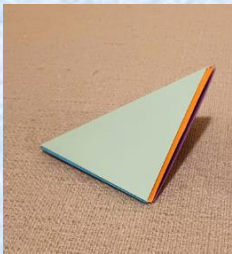
Immagine wikipedia - tetraedro



Stessa altezza?

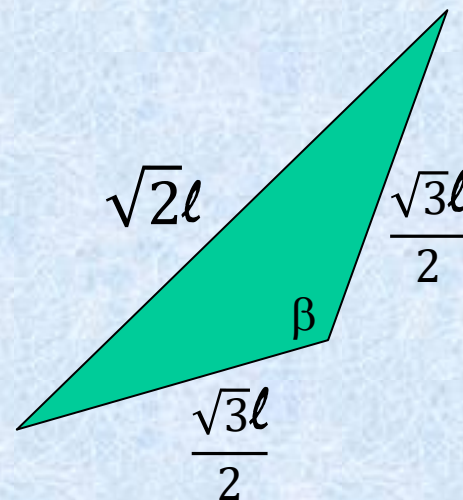


Angolo diedro $70^{\circ} 31'$ [$\alpha = \arccos 1/3$]



**Angolo diedro formato dalle due facce a
triangolo equilatero:**

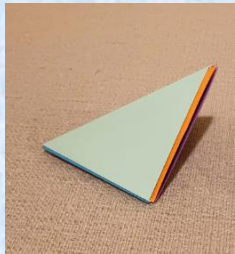
$109^{\circ} 29'$ [$\beta = \arccos(-1/3)$]



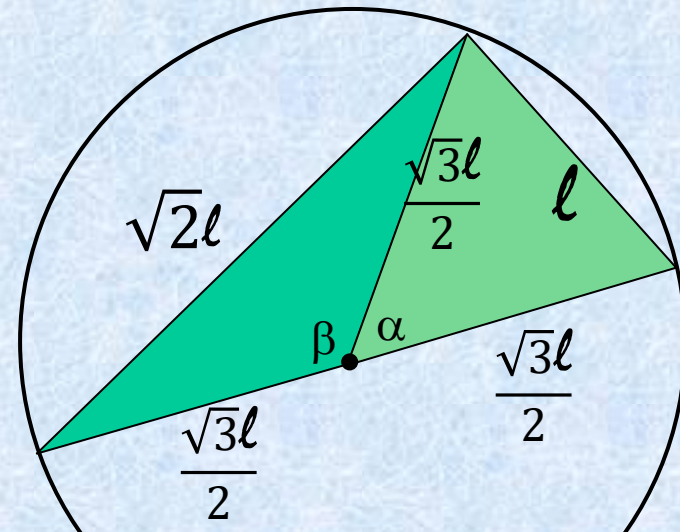
Stessa altezza?



Angolo diedro $70^{\circ} 31'$ [$\alpha = \arccos 1/3$]



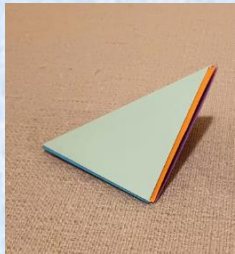
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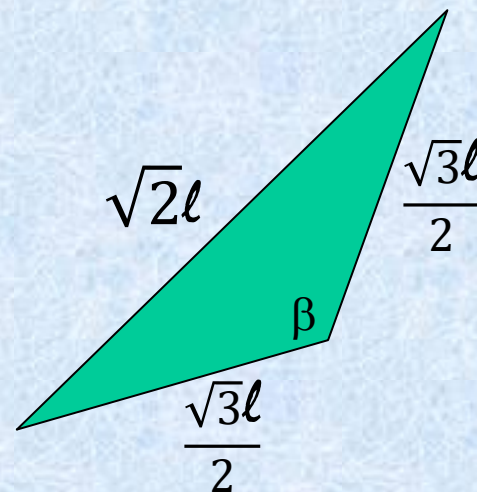
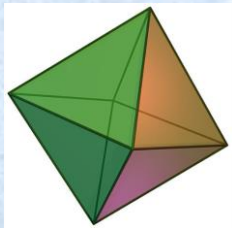
Stessa altezza?



Angolo diedro $70^{\circ} 31'$ [$\alpha = \arccos 1/3$]



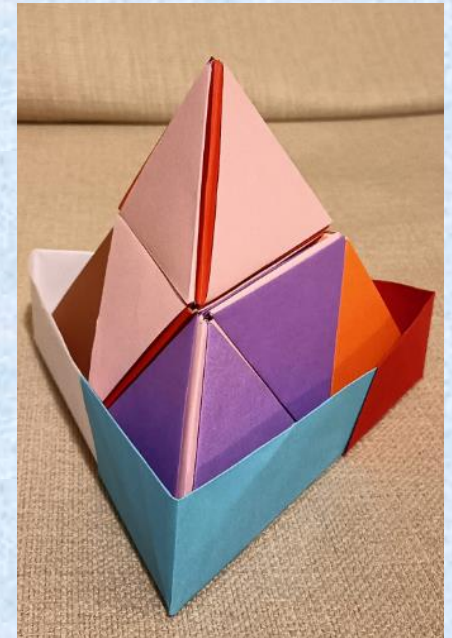
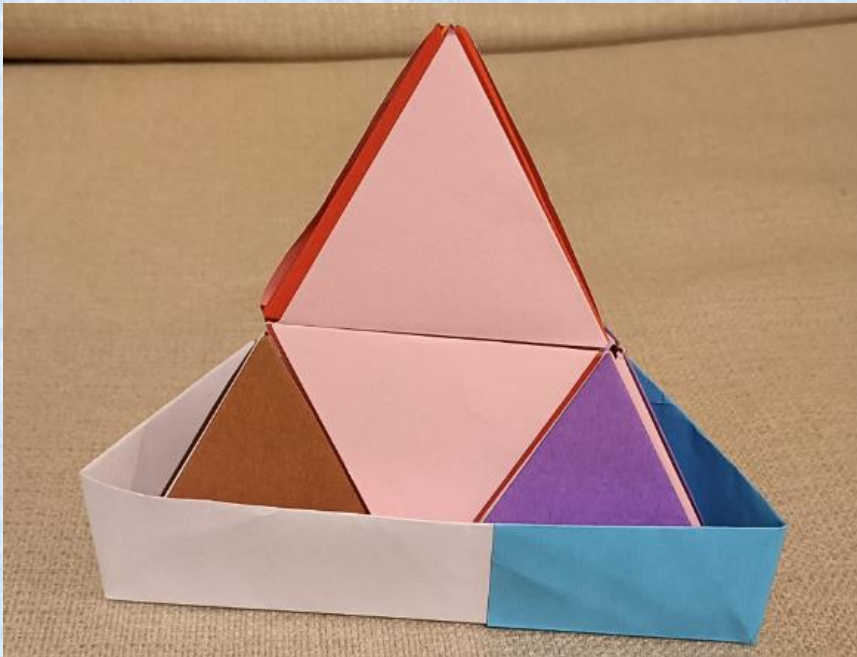
Angolo diedro $109^{\circ} 29'$ [$\beta = \arccos(-1/3)$]



Composizioni inattese



Composizioni inattese



Grazie a tutti!
Francesco e Stefania