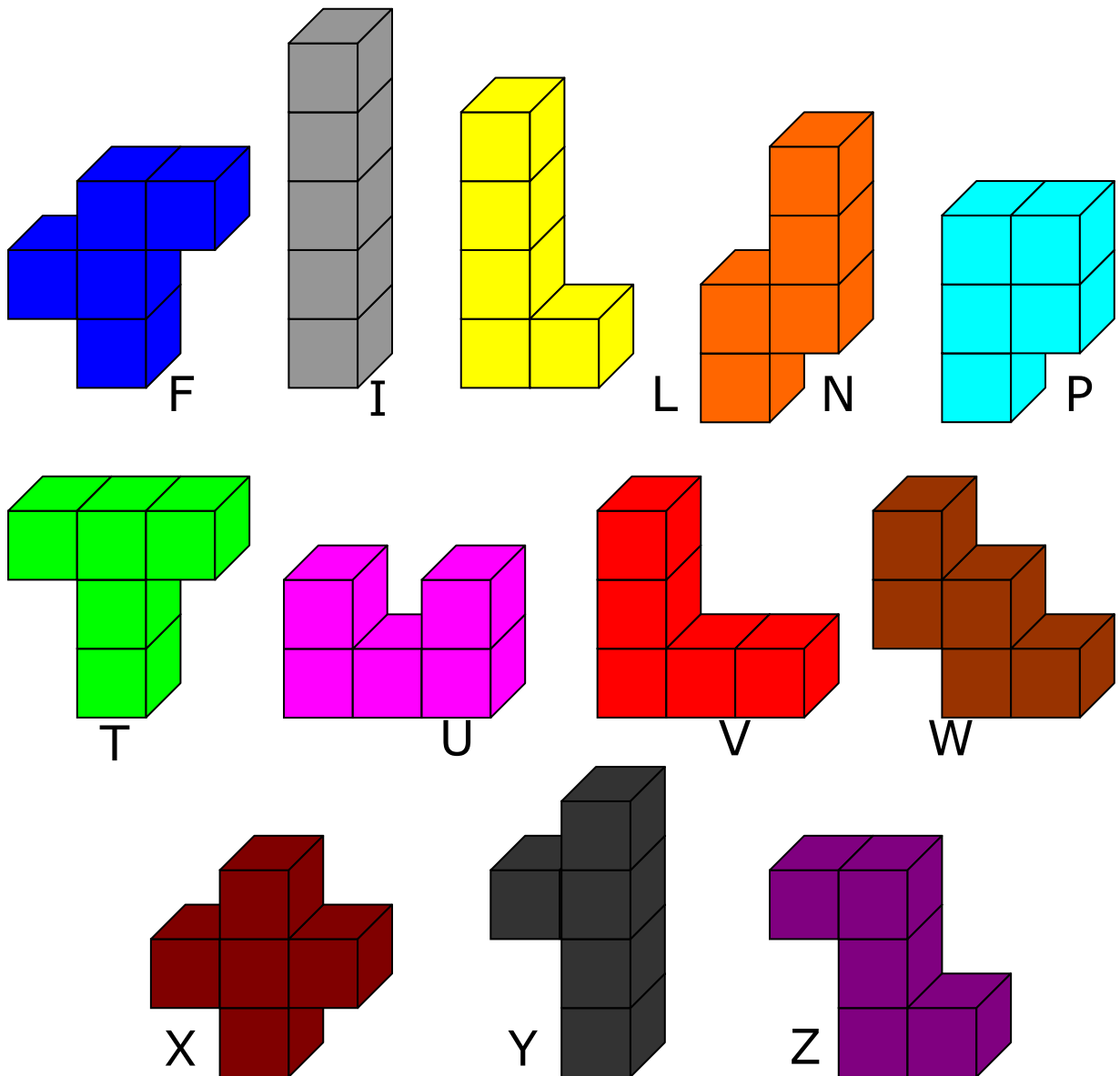


17 - Pentac

Les pièces sont formés des douze assemblages « plats » de cinq cubes identiques.



Par ailleurs, il existe dix-sept assemblages « non plats » de cinq cubes identiques et donc un total de vingt-neuf pentacubes

<http://www.bumblebeagle.org/polycubes/pentacubes/> Les noms des 29 pièces.

<http://puzzler.sourceforge.net/docs/pentacubes.html> Avec les 29 pièces.

<http://www.pentomino.ch/die-29-pentacuben/> Autre classification et dénomination des 29 pièces. Beaucoup de modèles de polycubes à construire.

<http://apmep.poitiers.free.fr/IMG/pdf/doc-expocube.pdf> L'expo cube de la régionale APMEP de Poitiers.

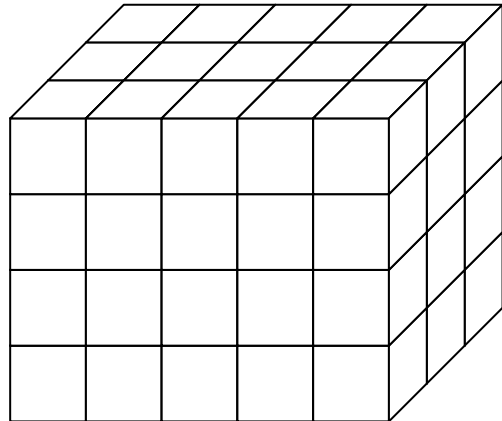
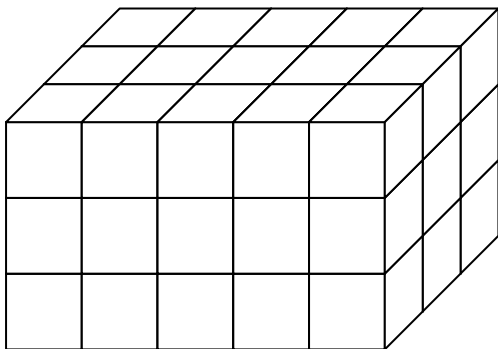
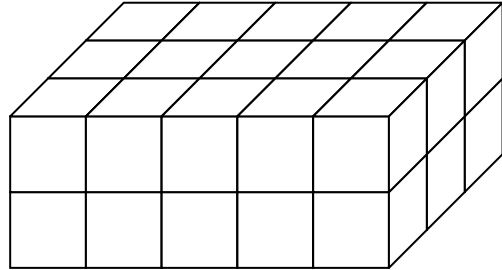
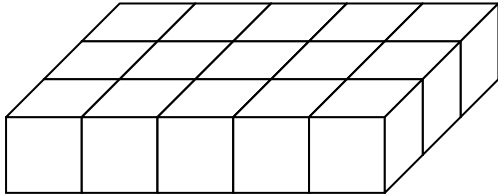
<http://www.cs.utsa.edu/~wagner/pubs/recmath/pent2.pdf> Des constructions avec des pentacubes.

<http://apmeplorraine.fr/pv/PV120.pdf> Pages 24 et 25, un défi utilisant des pièces du Pentac.

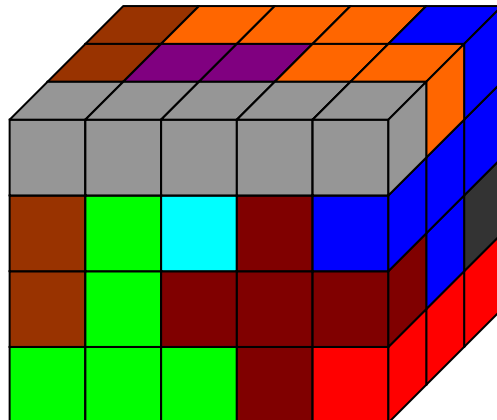
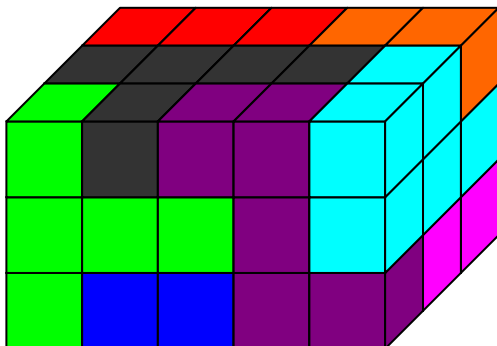
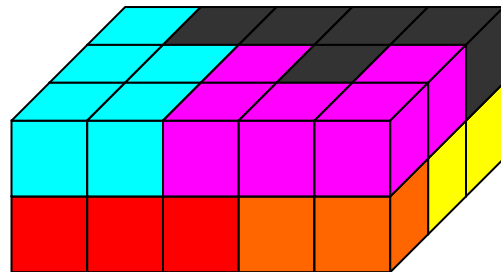
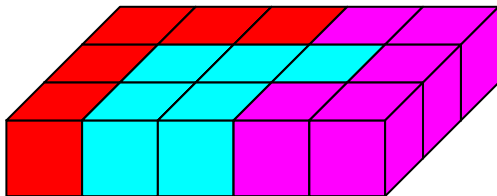
<http://www.pentoma.de/pentomino-3d-figuren-uebersicht/> des solides à réaliser. Une solution est fournie en cliquant sur les dessins.

17- Des pavés et des pièces du Pentac

Quelques dessins de pavés réalisables avec des pièces choisies parmi les douze du « Pentac »

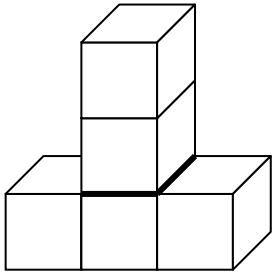


Des solutions

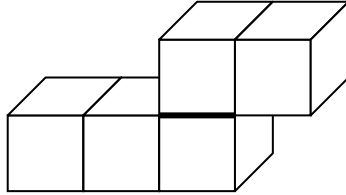


17- Des pavés accolés et des pièces du Pentac

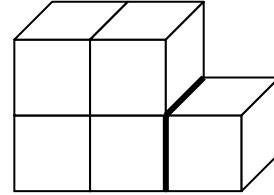
Pavés accolés et une pièce du « Pentac »



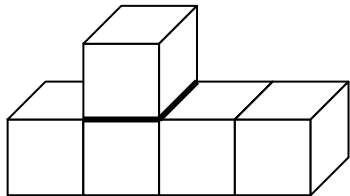
$$5 = 3 \times 1 \times 1 + 2 \times 1 \times 1$$



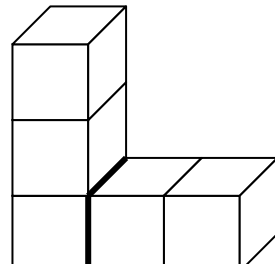
$$5 = 3 \times 1 \times 1 + 2 \times 1 \times 1$$



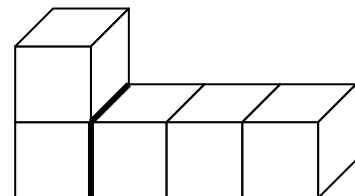
$$5 = 2 \times 2 \times 1 + 1 \times 1 \times 1$$



$$5 = 4 \times 1 \times 1 + 1 \times 1 \times 1$$

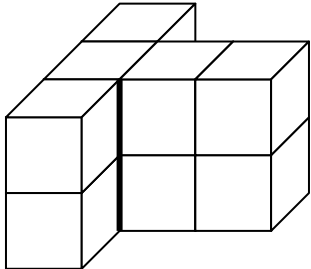


$$5 = 4 \times 1 \times 1 + 1 \times 1 \times 1$$

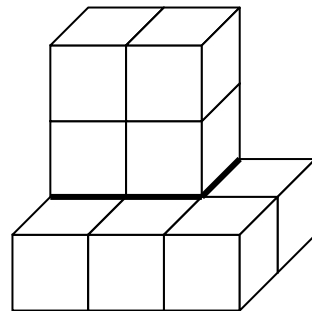


$$5 = 1 \times 2 \times 1 + 1 \times 1 \times 3$$

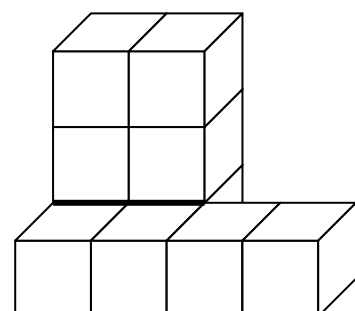
Pavés accolés et deux pièces du « Pentac »



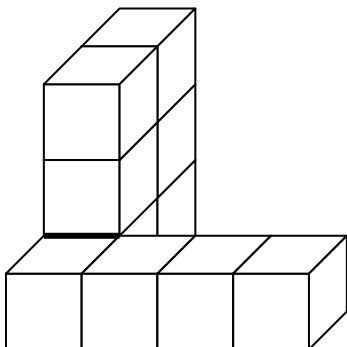
$$10 = 2 \times 3 \times 1 + 2 \times 2 \times 1$$



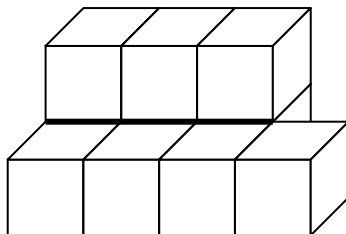
$$10 = 2 \times 3 \times 1 + 2 \times 2 \times 1$$



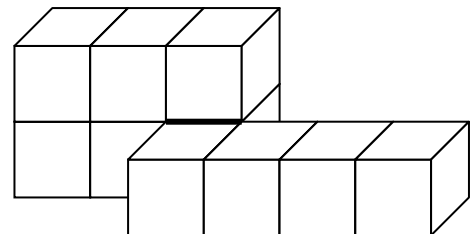
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



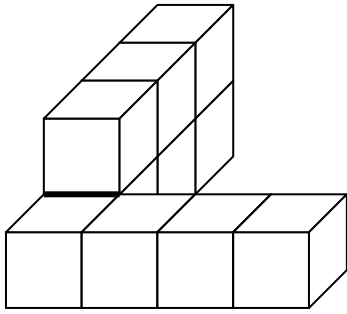
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



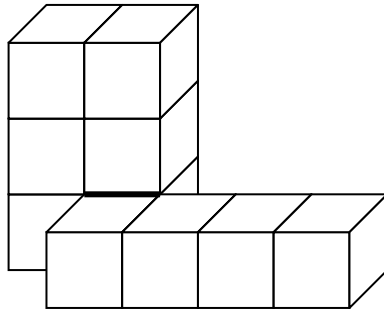
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



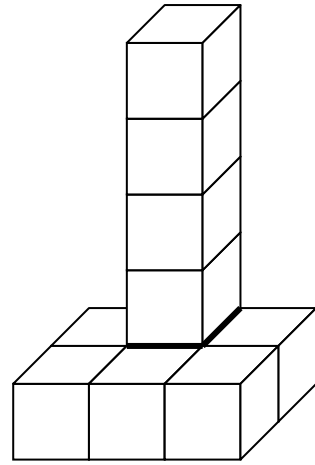
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



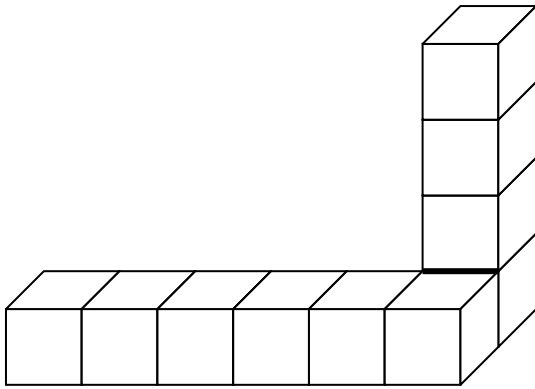
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



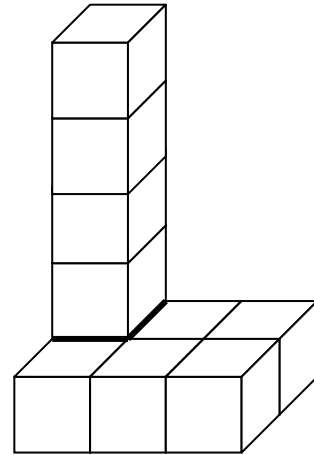
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



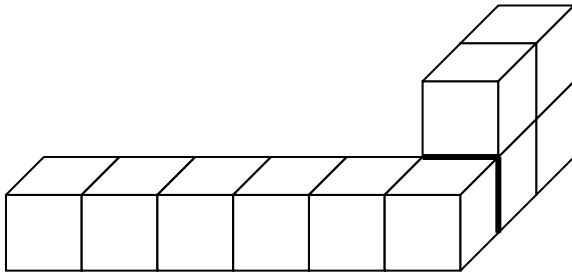
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



$$10 = 1 \times 1 \times 6 + 1 \times 1 \times 4$$

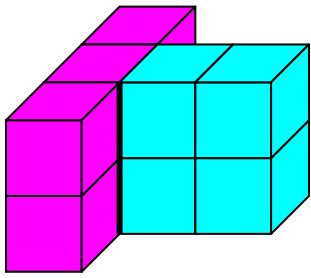


$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$

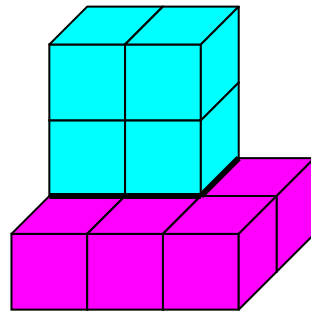


$$10 = 1 \times 1 \times 6 + 1 \times 2 \times 2$$

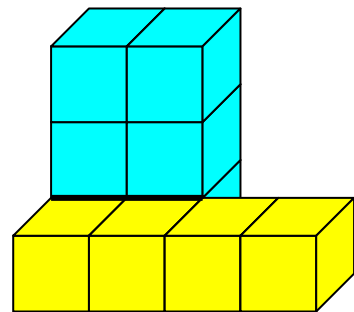
Pavés accolés et deux pièces du « Pentac » : des solutions



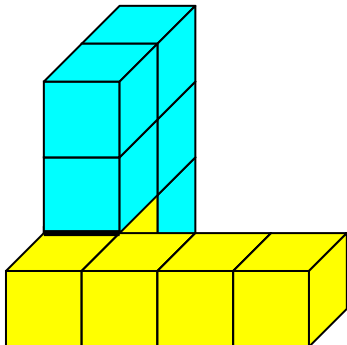
$$10 = 2 \times 3 \times 1 + 2 \times 2 \times 1$$



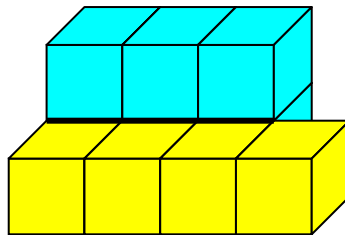
$$10 = 2 \times 3 \times 1 + 2 \times 2 \times 1$$



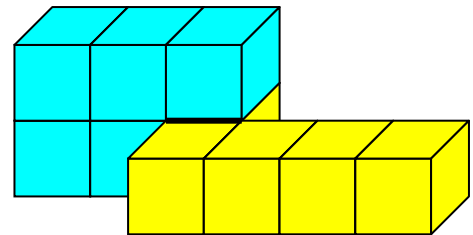
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



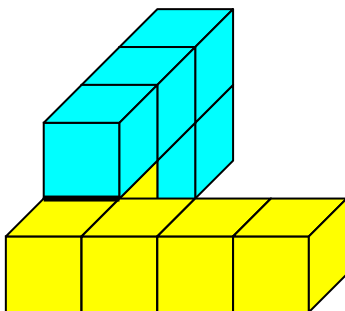
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



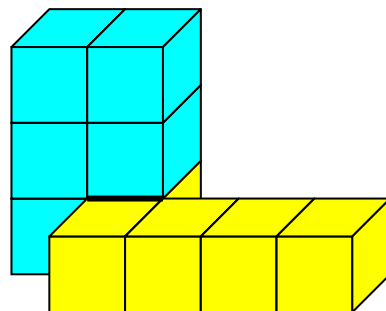
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



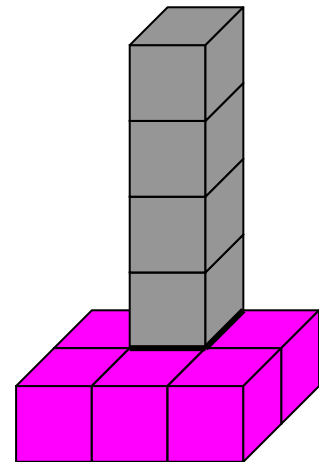
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



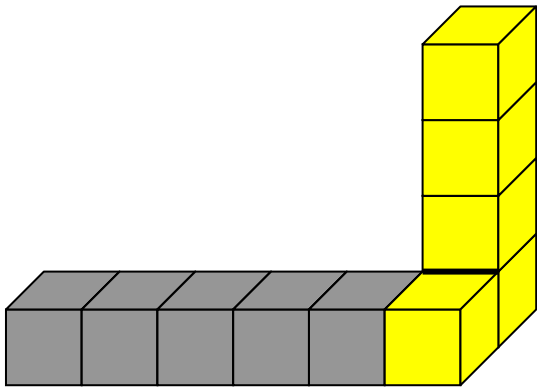
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



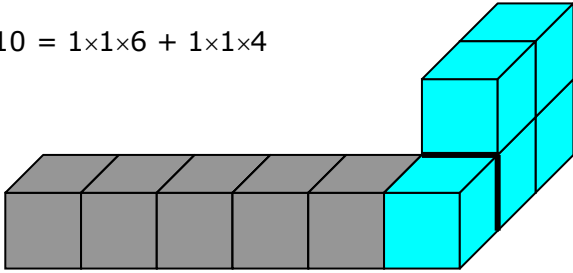
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



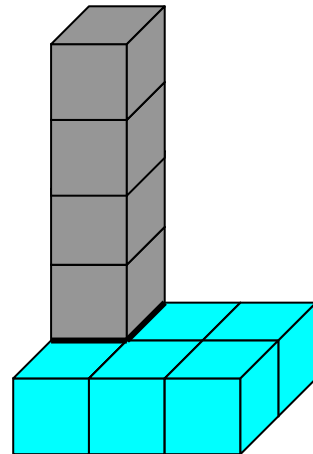
$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$



$$10 = 1 \times 1 \times 6 + 1 \times 1 \times 4$$

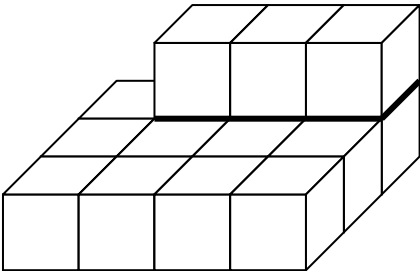


$$10 = 1 \times 1 \times 6 + 1 \times 2 \times 2$$

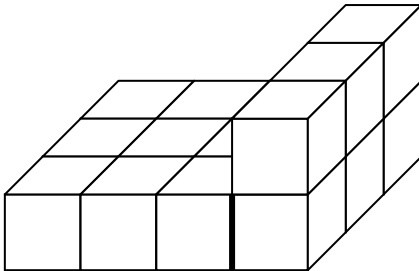


$$10 = 2 \times 3 \times 1 + 1 \times 1 \times 4$$

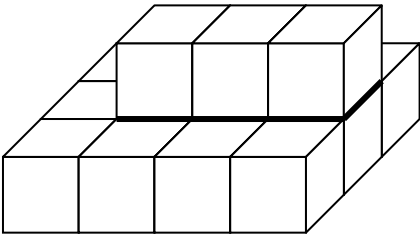
Pavés accolés et trois pièces du « Pentac »



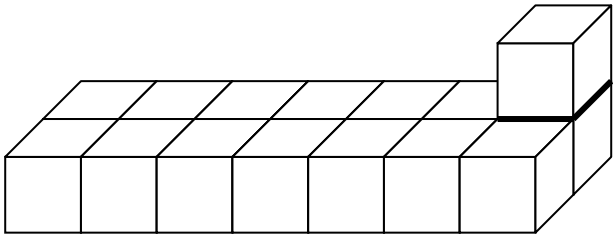
$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$



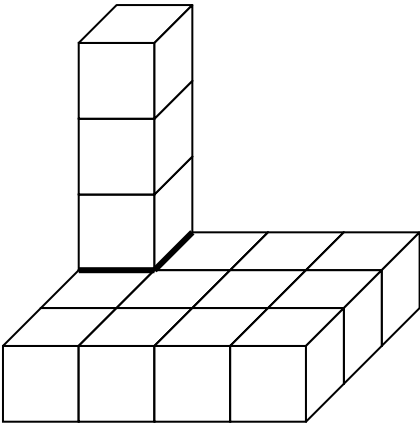
$15 = 3 \times 3 \times 1 + 2 \times 2 \times 1$



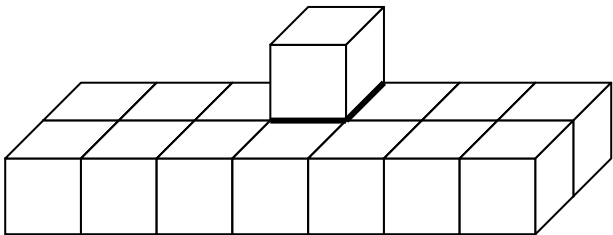
$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$



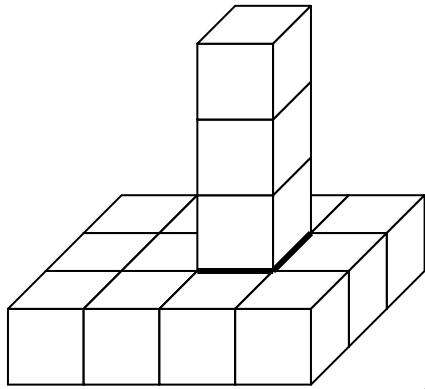
$15 = 7 \times 2 \times 1 + 1 \times 1 \times 1$



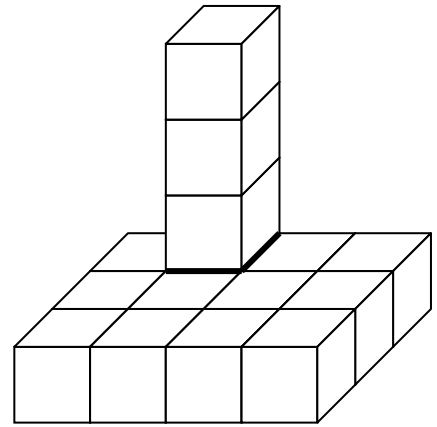
$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$



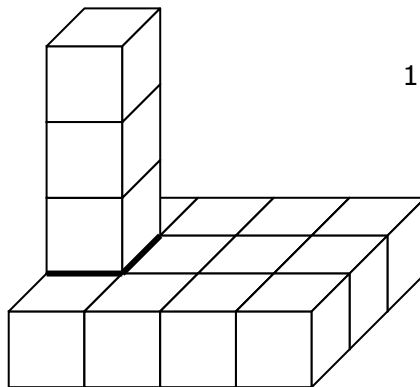
$15 = 7 \times 2 \times 1 + 1 \times 1 \times 1$



$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

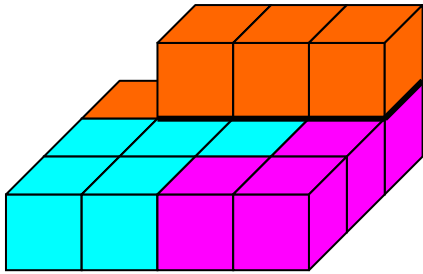


$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

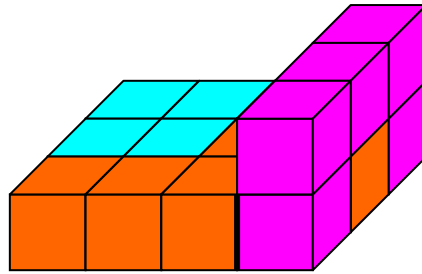


$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

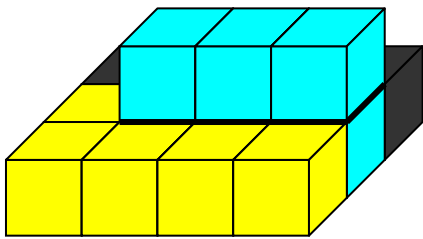
Pavés accolés et trois pièces du « Pentac » : des solutions



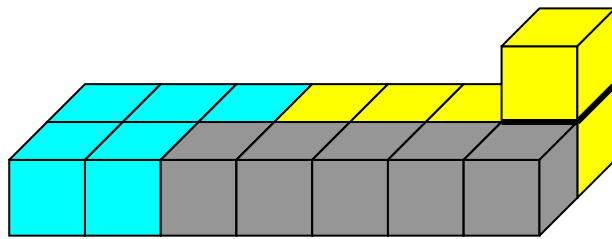
$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$



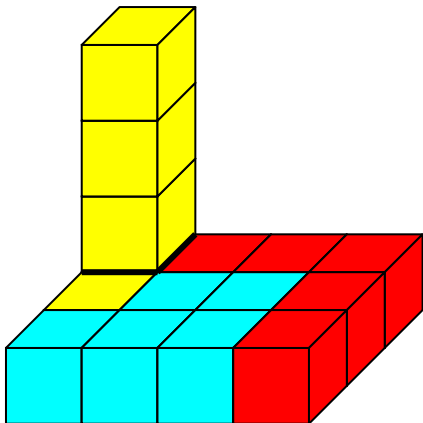
$$15 = 3 \times 3 \times 1 + 2 \times 2 \times 1$$



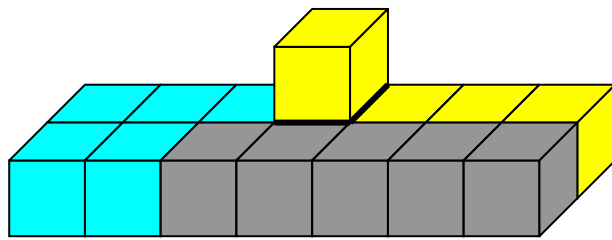
$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$



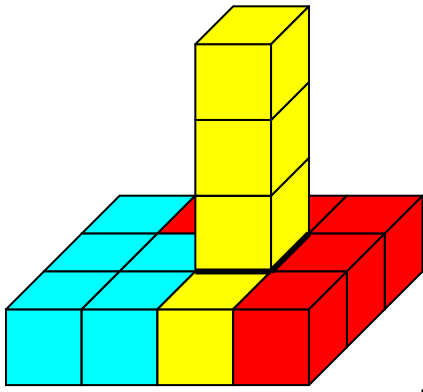
$$15 = 7 \times 2 \times 1 + 1 \times 1 \times 1$$



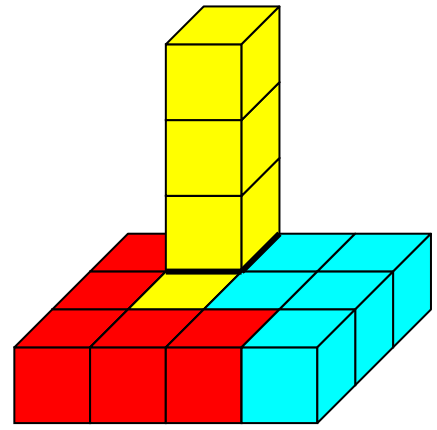
$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$



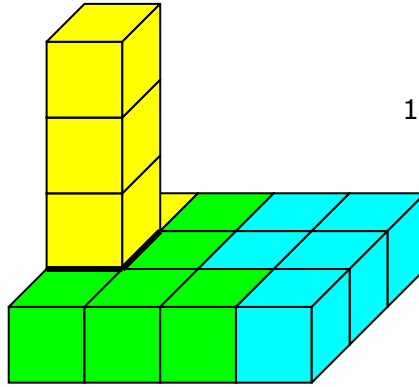
$$15 = 7 \times 2 \times 1 + 1 \times 1 \times 1$$



$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

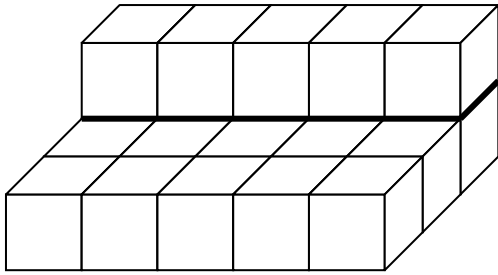


$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

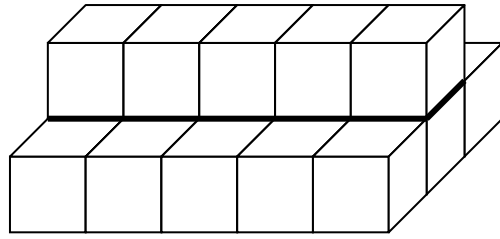


$$15 = 4 \times 3 \times 1 + 1 \times 1 \times 3$$

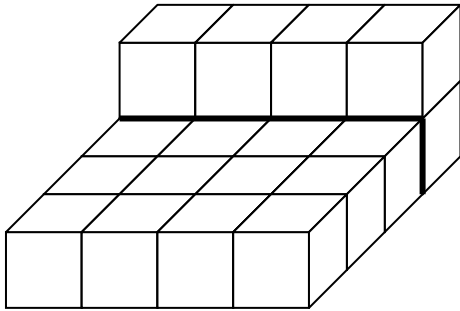
Pavés accolés et quatre pièces du « Pentac »



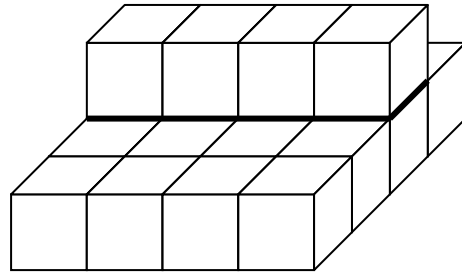
$$20 = 5 \times 3 \times 1 + 1 \times 1 \times 5$$



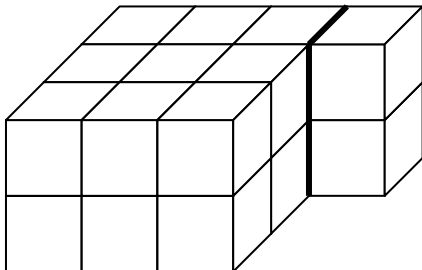
$$20 = 5 \times 3 \times 1 + 1 \times 1 \times 5$$



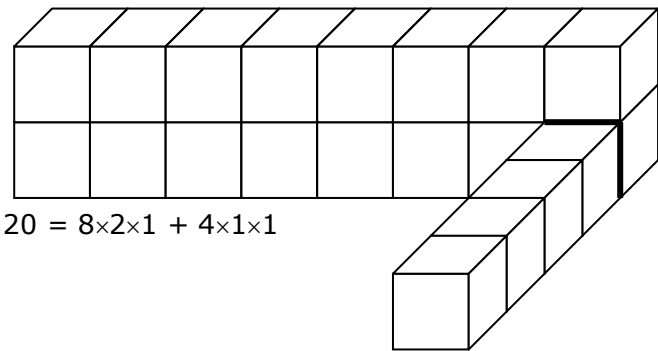
$$20 = 4 \times 3 \times 1 + 2 \times 4 \times 1$$



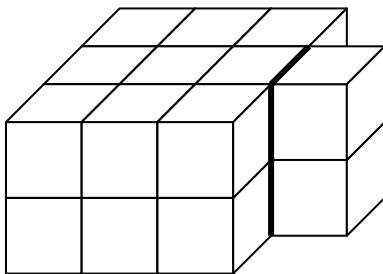
$$20 = 4 \times 4 \times 1 + 4 \times 1 \times 1$$



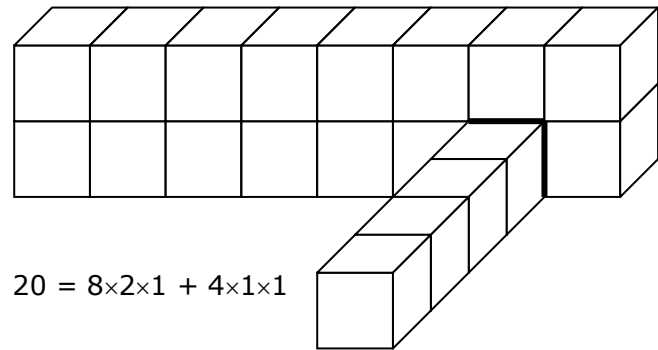
$$20 = 3 \times 3 \times 2 + 1 \times 1 \times 2$$



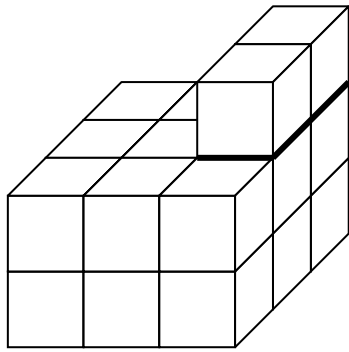
$$20 = 8 \times 2 \times 1 + 4 \times 1 \times 1$$



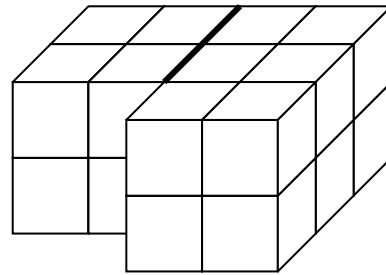
$$20 = 3 \times 3 \times 2 + 2 \times 1 \times 1$$



$$20 = 8 \times 2 \times 1 + 4 \times 1 \times 1$$

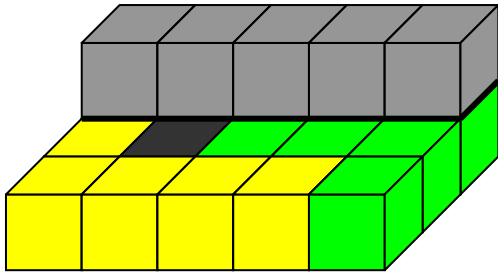


$$20 = 3 \times 3 \times 2 + 1 \times 1 \times 2$$

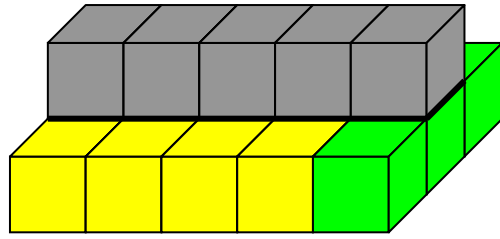


$$20 = 2 \times 2 \times 3 + 2 \times 2 \times 2$$

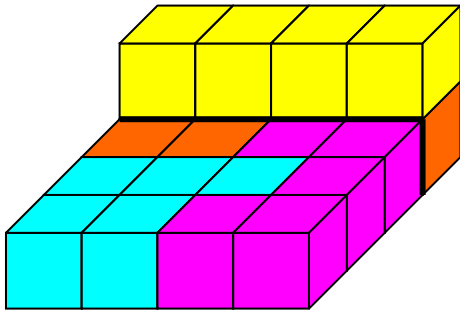
Pavés accolés et quatre pièces du « Pentac » : des solutions



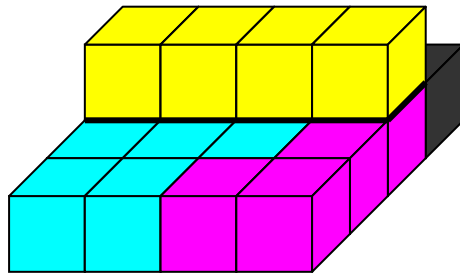
$$20 = 5 \times 3 \times 1 + 1 \times 1 \times 5$$



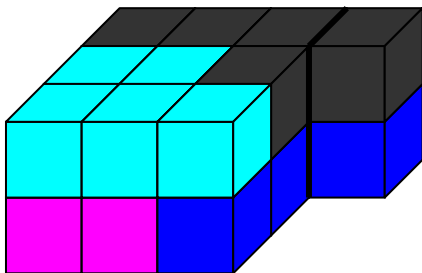
$$20 = 5 \times 3 \times 1 + 1 \times 1 \times 5$$



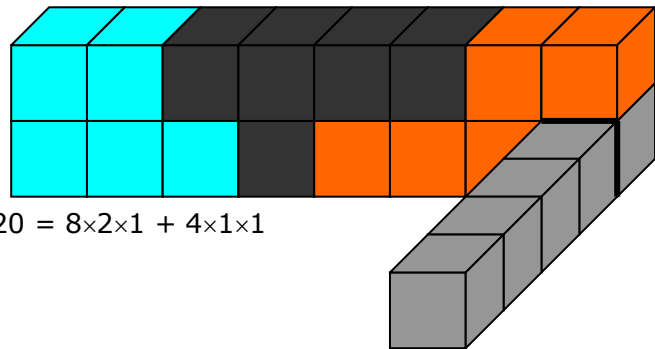
$$20 = 4 \times 3 \times 1 + 2 \times 4 \times 1$$



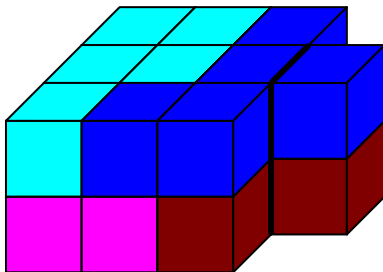
$$20 = 4 \times 4 \times 1 + 4 \times 1 \times 1$$



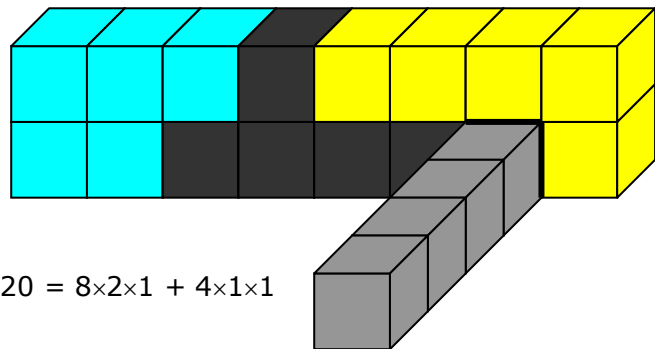
$$20 = 3 \times 3 \times 2 + 1 \times 1 \times 2$$



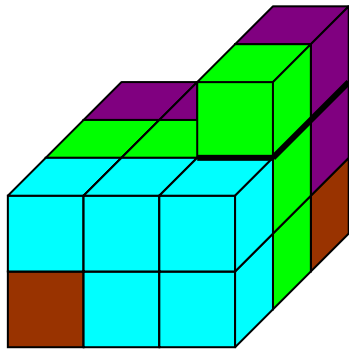
$$20 = 8 \times 2 \times 1 + 4 \times 1 \times 1$$



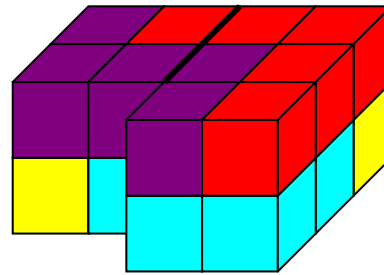
$$20 = 3 \times 3 \times 2 + 2 \times 1 \times 1$$



$$20 = 8 \times 2 \times 1 + 4 \times 1 \times 1$$

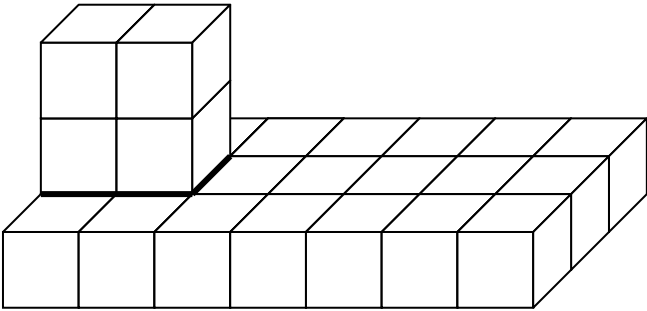


$$20 = 3 \times 3 \times 2 + 1 \times 1 \times 2$$

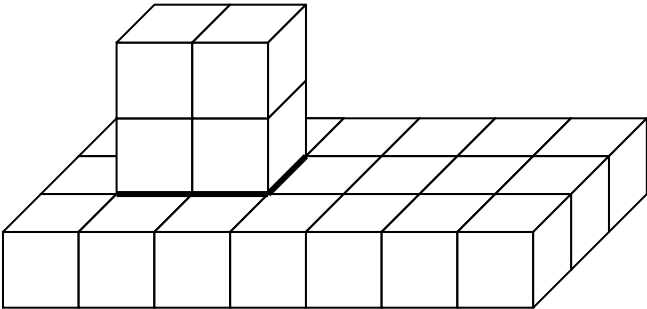


$$20 = 2 \times 2 \times 3 + 2 \times 2 \times 2$$

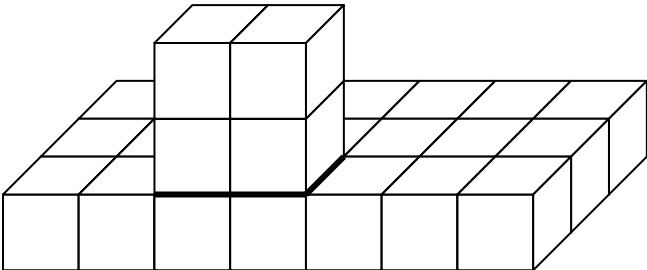
Pavés accolés et cinq pièces du « Pentac »



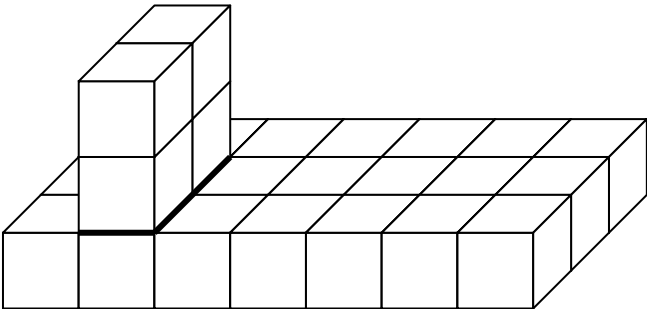
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



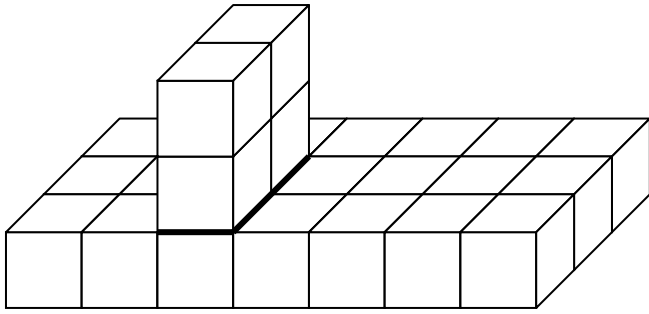
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



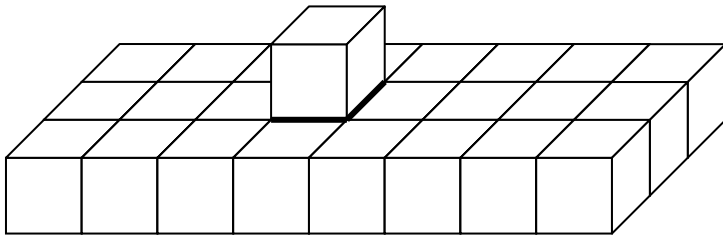
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



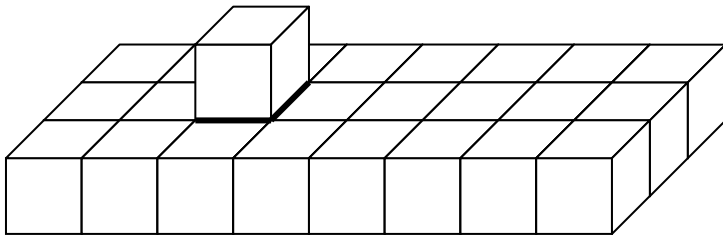
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



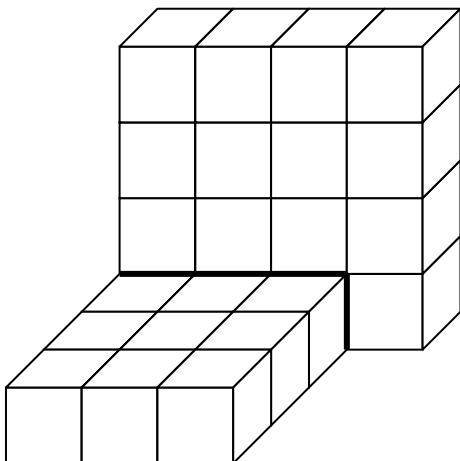
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



$$25 = 8 \times 3 \times 1 + 1 \times 1 \times 1$$

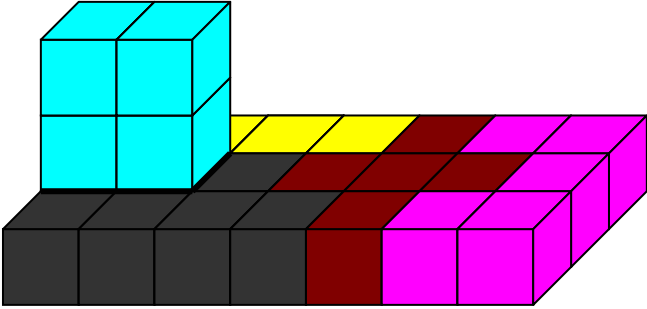


$$25 = 8 \times 3 \times 1 + 1 \times 1 \times 1$$

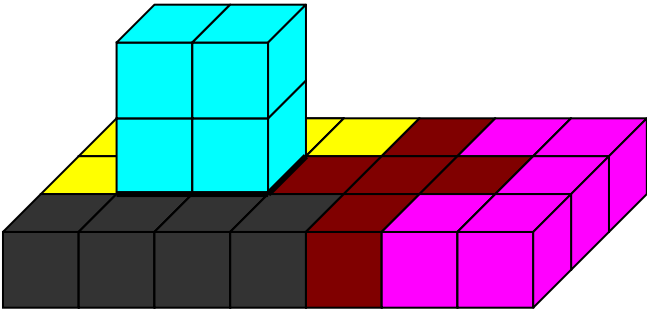


$$25 = 8 \times 3 \times 1 + 1 \times 1 \times 1$$

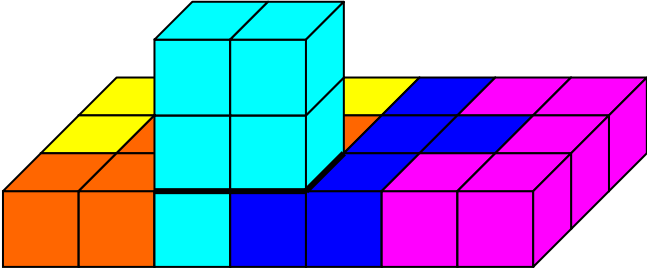
Pavés accolés et cinq pièces du « Pentac » : des solutions



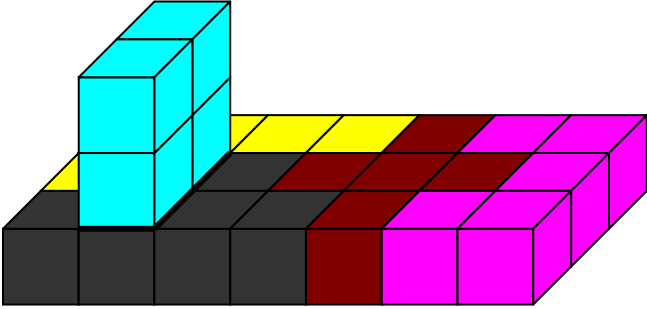
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



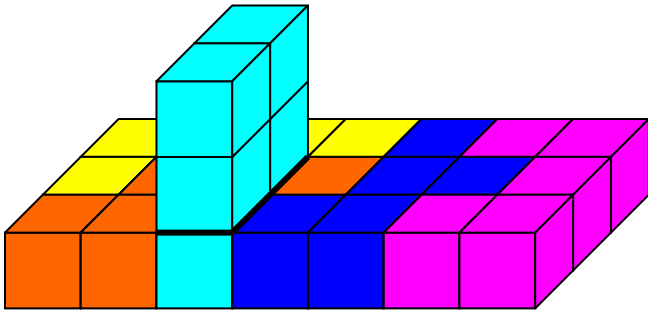
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



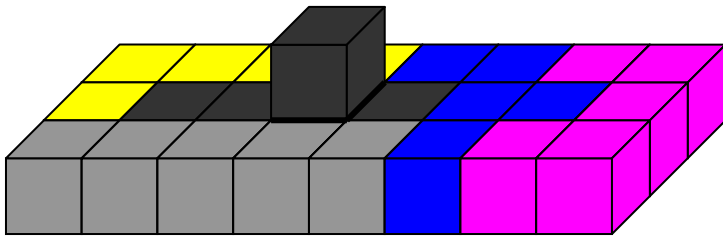
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



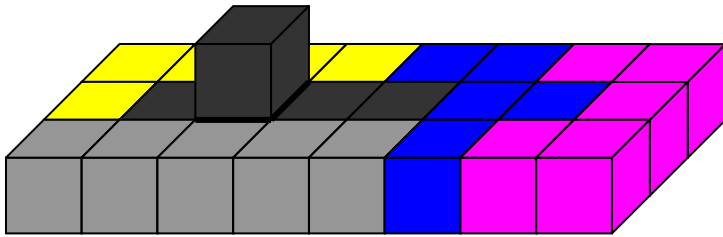
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



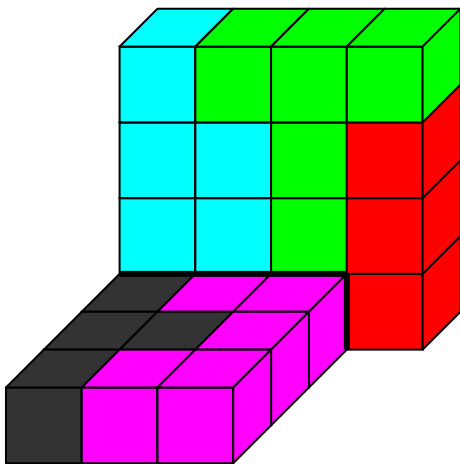
$$25 = 7 \times 3 \times 1 + 2 \times 2 \times 1$$



$$25 = 8 \times 3 \times 1 + 1 \times 1 \times 1$$



$$25 = 8 \times 3 \times 1 + 1 \times 1 \times 1$$



$$25 = 3 \times 3 \times 1 + 4 \times 4 \times 1$$