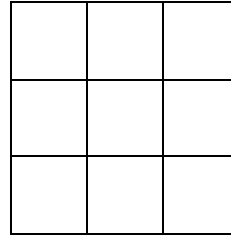


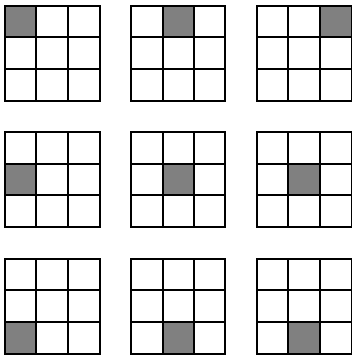
23/1/2015 : création mathématique de Yassine



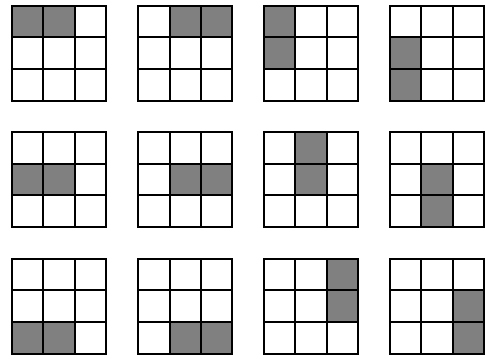
Combien de polygones dans cette figure ?

Yassine propose de compter de manière systématique.

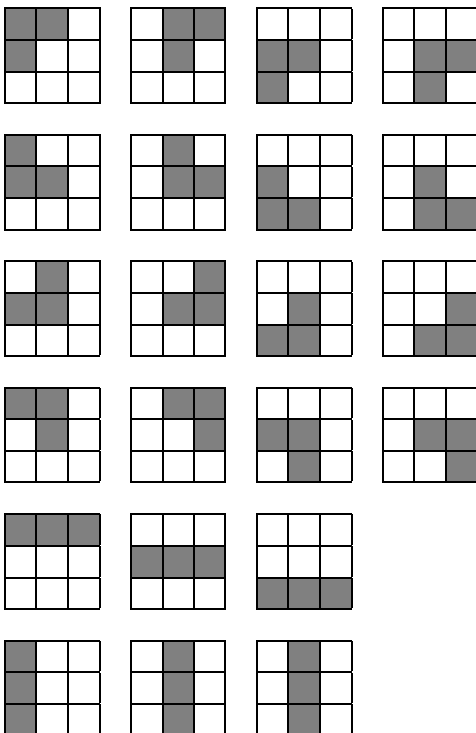
1) Polygones à 1 quadrilatère =>9



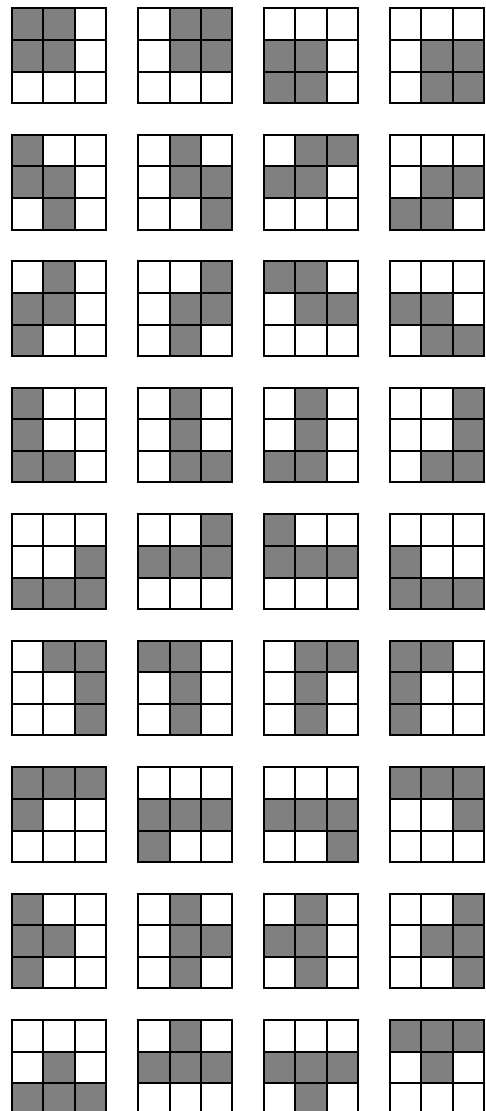
2) polygones à 2 quadrilatères =>2x6 =12



3) Polygones à 3 quadrilatères =>4x4+2x3= 22

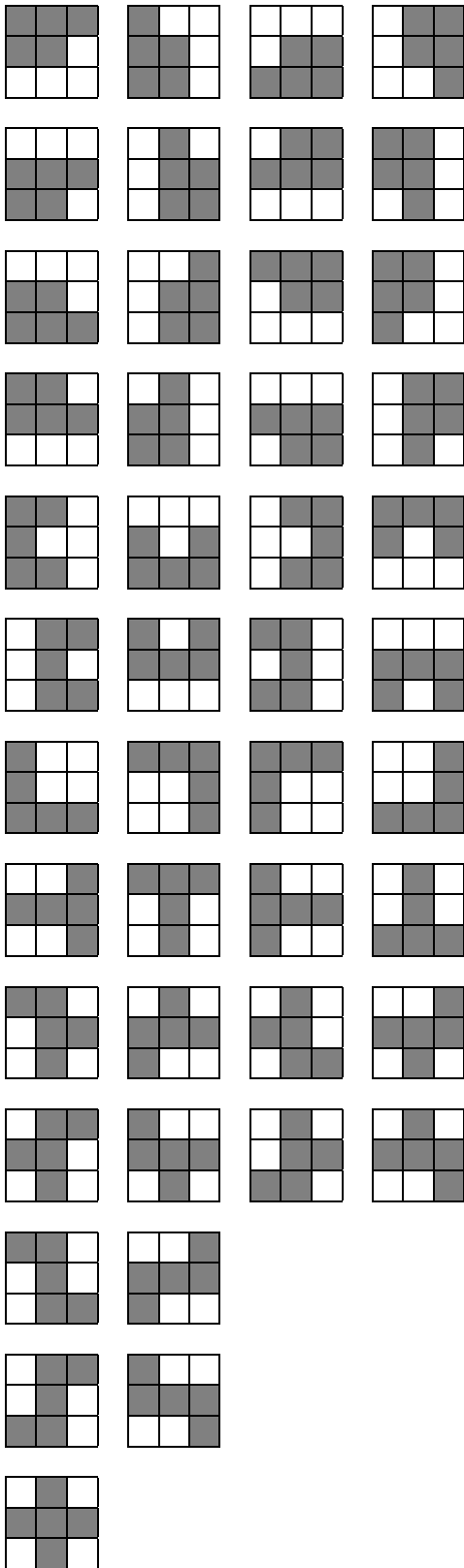


4) Polygones à 4 quadrilatères =>3x4+3x8= 36



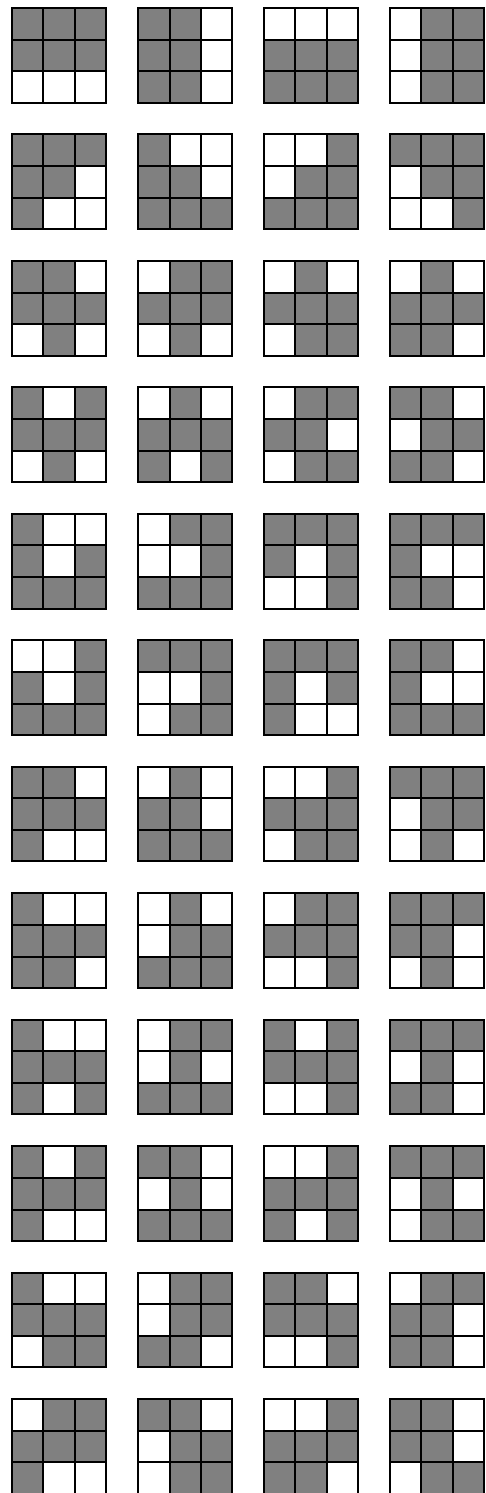
5) Polygones à 5 quadrilatères

$$\Rightarrow 3 \times 8 + 4 \times 4 + 2 \times 2 + 1 = 45$$



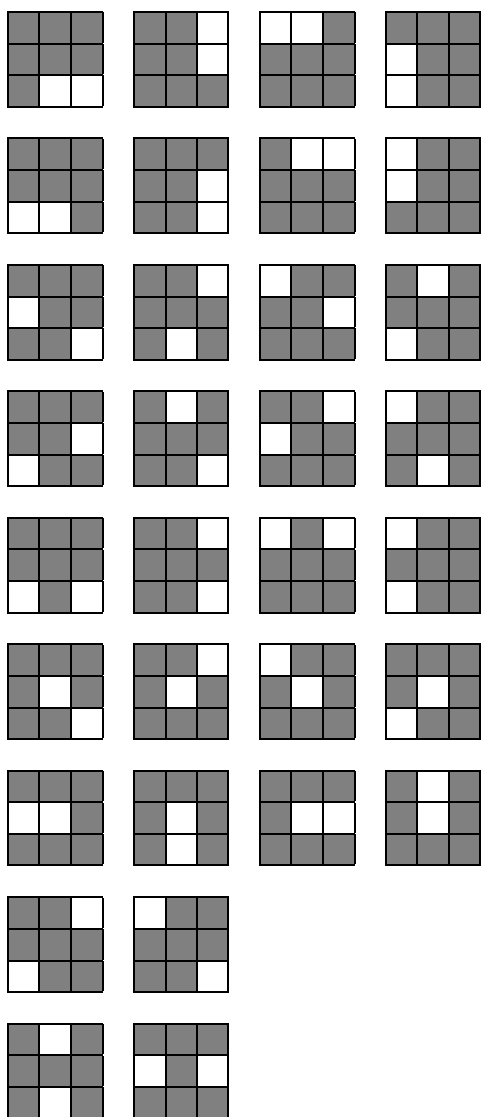
6) Polygones à 6 quadrilatères

$$\Rightarrow 4 \times 4 + 4 \times 8 = 48$$



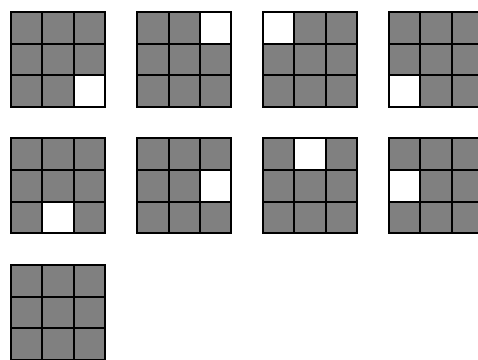
7) Polygones à 7 quadrilatères

$$\Rightarrow 2 \times 8 + 3 \times 4 + 2 \times 2 = 32$$



8) Polygones à 8 et 9 quadrilatères

$$2 \times 4 + 1$$



Total

$$9 + 12 + 22 + 36 + 45 + 48 + 32 + 8 + 1 = \mathbf{213}$$