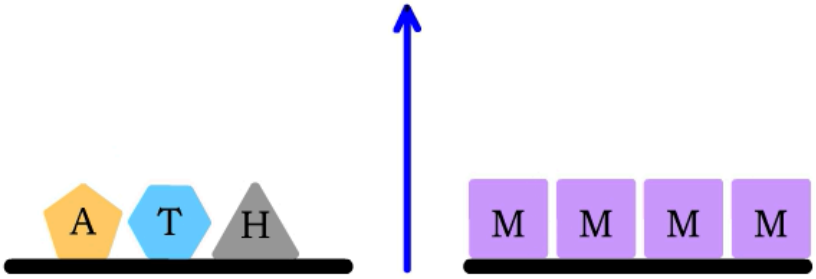
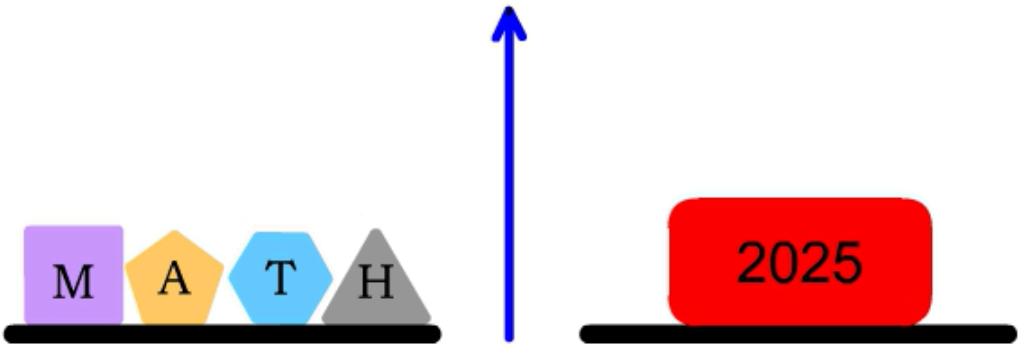
On a :

4 x M = A + T + H ;



M + A + T + H = 2025 g ;



→ M + (4 x M) = 2025

→ 5 x M = 2025

→ M = 2025/5 = 405 g

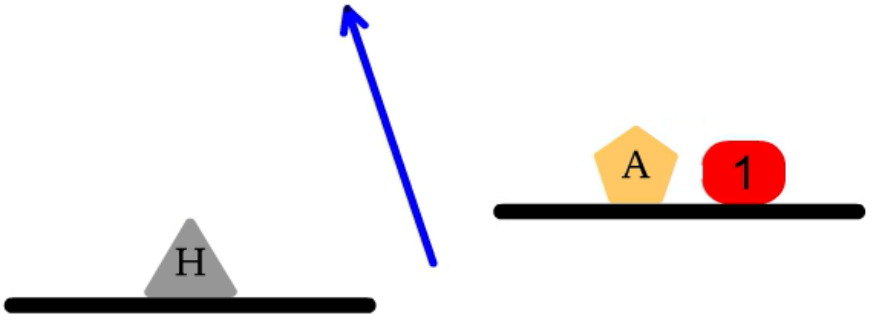
On déduit la somme A + T + H = 5 x M - M = (5 - 1)M = 4 M

1) 2025 - 405 = 1620 g

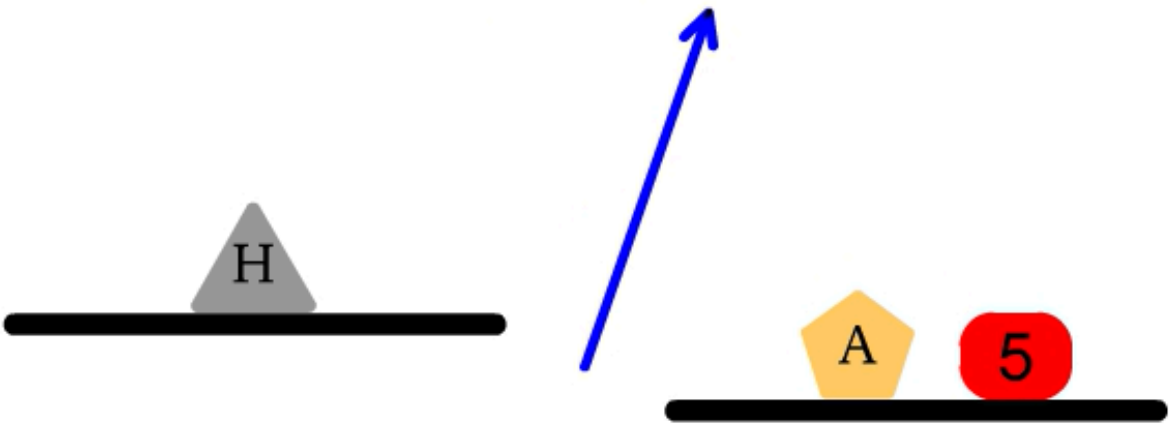
2) 4 x 405 = 1620 g

On a aussi :

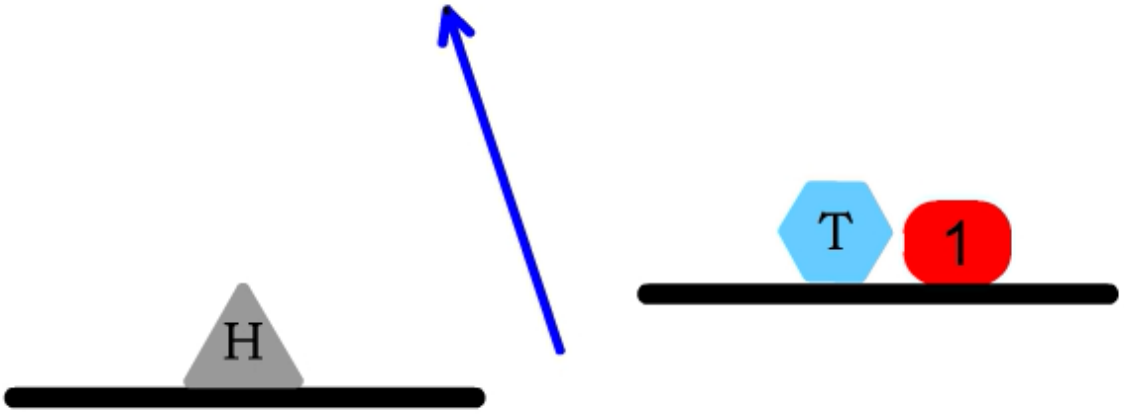
H > A + 1 ;



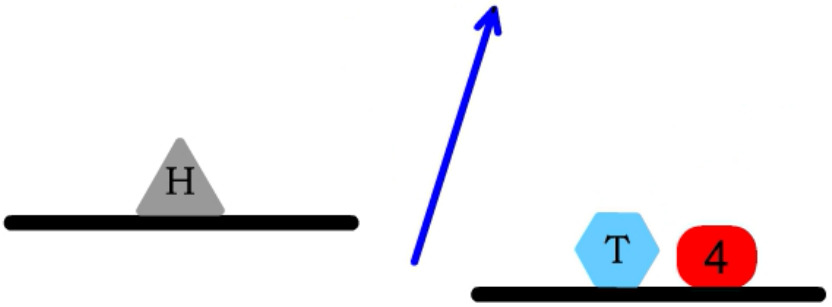
H < A + 5 ;



H > T + 1 ;



H < T + 4 ;



On en déduit deux encadrements de H :

A + 1 < H < A + 5

T + 1 < H < T + 4

On suppose que :

H = A + 4

H = T + 2

Ces équations vérifient l'encadrement de H car

$A + 1 < A + 4 < A + 5$. et $T + 1 < T + 2 < T + 4$

On a alors :

$A = H - 4$

$T = H - 2$.

On exprime $A + T + H$ en fonction de H :

$A + T + H = H - 4 + H - 2 + H = 3H - 6 = 1620$

$3H = 1620 + 6 = 1626$

$H = 1626 / 3 = 542$ g

$A = 542 - 4 = 538$ g

$T = 542 - 2 = 540$ g

Ainsi les valeurs de A, T, et H vérifient l'égalité $A + T + H = 1620$ g

→ $538 + 540 + 542 = 1620$ g

Ainsi $M + A + T + H = 2025$ g

$M = 405$ g

$A = 538$ g

$T = 540$ g

$H = 542$ g