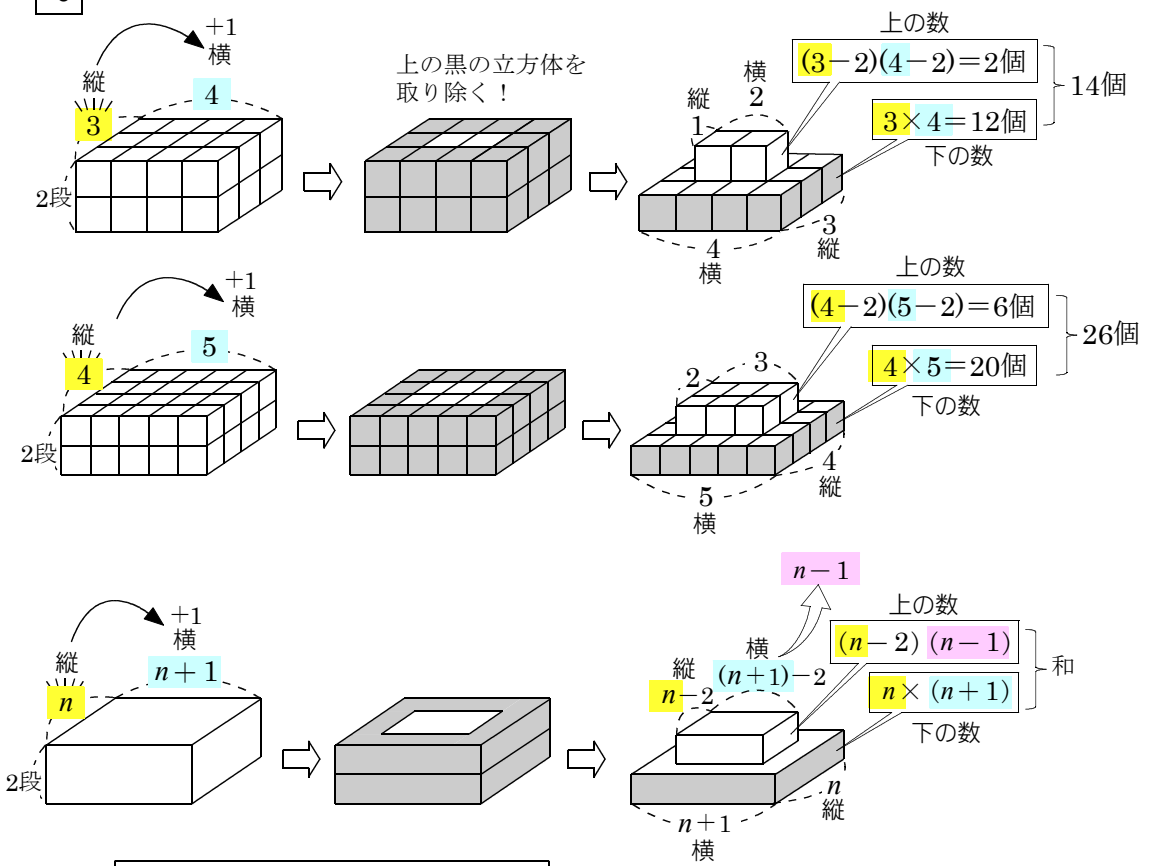


5



全体の立方体の個数を求める式

$$\underbrace{n \times (n+1)}_{\text{下の数}} + \underbrace{(n-2)(n-1)}_{\text{上の数}} = \text{全体の立方体の個数}$$

(ア) $n=5$ の場合

$$\begin{aligned} & n \times (n+1) + (n-2)(n-1) \\ &= 5 \times (5+1) + (5-2)(5-1) \\ &= 5 \times 6 + 3 \times 4 \\ &= 30 + 12 \\ &= 42 \end{aligned}$$

(答) 42個

(イ) 全体の数が222個の場合

$$\begin{aligned} n \times (n+1) + (n-2)(n-1) &= 222 \\ n^2 + n + (n^2 - 3n + 2) &= 222 \\ n^2 + n + n^2 - 3n + 2 &= 222 \\ 2n^2 - 2n - 220 &= 0 \\ n^2 - n - 110 &= 0 \\ (n-11)(n+10) &= 0 \\ n &= 11, -10 \end{aligned}$$

(答) 11