5. Calculá de la manera más exacta y simple posible el número de asignaciones a la variable t de los siguientes algoritmos. Las ecuaciones que se encuentran al final del práctico pueden ayudarte.

(a)
```
t := 0
for i := 1 to n do
    for j := 1 to n^2 do
        for k := 1 to n^3 do
            t := t + 1
        od
    od
od
```

(b)
```
t := 0
for i := 1 to n do
    for j := 1 to i do
        for k := j to j + 3 do
            t := t + 1
        od
    od
od
```

a)	$\begin{aligned} \text{ops(C)} &= \text{ops(t := 0)} + \text{ops(for i := 1 to } n \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n} \text{ops(for j := 1 to } n^2 \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{n^2} \text{ops(for k := 1 to } n^3 \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{n^2}\sum_{k=1}^{n^3} \text{ops(t := t+1)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{n^2}\sum_{k=1}^{n^3} 1 \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{n^2} n^3 \\ &= 1 + \sum_{i=1}^{n} n^3 * n^2 \\ &= 1 + n^5 * n = \mathbf{1 + n^6} \end{aligned}$
b)	$\begin{aligned} \text{ops(C)} &= \text{ops(t := 0)} + \text{ops(for i := 1 to } n \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n} \text{ops(for j := 1 to } i \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{i} \text{ops(for k := j to } j+3 \text{ do ... od)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{i}\sum_{k=j}^{j+3} \text{ops(t := t+1)} \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{i}\sum_{k=j}^{j+3} 1 \\ &= 1 + \sum_{i=1}^{n}\sum_{j=1}^{i} 4 \\ &= 1 + 4 * \sum_{i=1}^{n} i \\ &= 1 + 4 * \frac{n(n+1)}{2} = \mathbf{2n^2 + 2n + 1} \end{aligned}$