

1)

$n \quad T(n)$

$0 \quad 2$
 $1 \quad 6$
 $2 \quad 14$
 $3 \quad 30$

$\left. \begin{array}{l} 2 \\ 6 \\ 14 \\ 30 \end{array} \right\} \begin{array}{l} 4^{n-1} \\ 8^{n-2} \\ 16^{n-3} \end{array}$

$T(n) = T(n-1) + ?$

$$T(n) = T(n-1) + 4 \cdot 2^{n-1}$$

$$T(1) = 2 + 4 \times 2^0 = 6 \checkmark$$

$$T(2) = 6 + 4 \times 2^1 = 14$$

$$T(3) = 14 + 4 \times 2^2 = 30$$

$$T(n) = 2T(n-1) + 2$$

$$T(1) = 6 \quad T(2) = 14 \quad T(3) = 30$$

$$T(n) = O(1)^n + T^P$$

$$A \cdot 2^n$$

$$A \cdot 2^n = \frac{A}{2} \cdot 2^n + \frac{4 \times 2^n}{2}$$

$$A = 4$$

$$\alpha = -2$$

$$T(n) = O(1) + 4 \cdot 2^n$$

$$\boxed{T(n) = -2 + 4 \cdot 2^n} \quad T(0) = 2$$

$$T(n) = 2T(n-1) + 2$$

$$Y = 2$$

$$T(n) = O(2^n) + T^P(n)$$

$$A = 2A + 2 \quad A = -2$$

$$T(n) = a 2^n - 2 \quad T(0) = 2$$

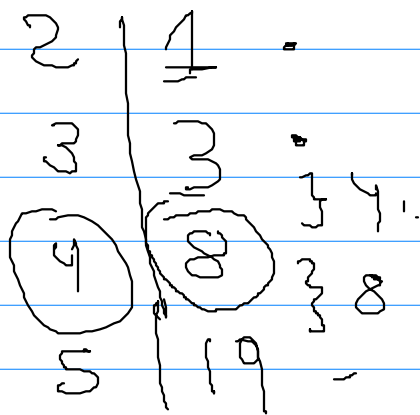
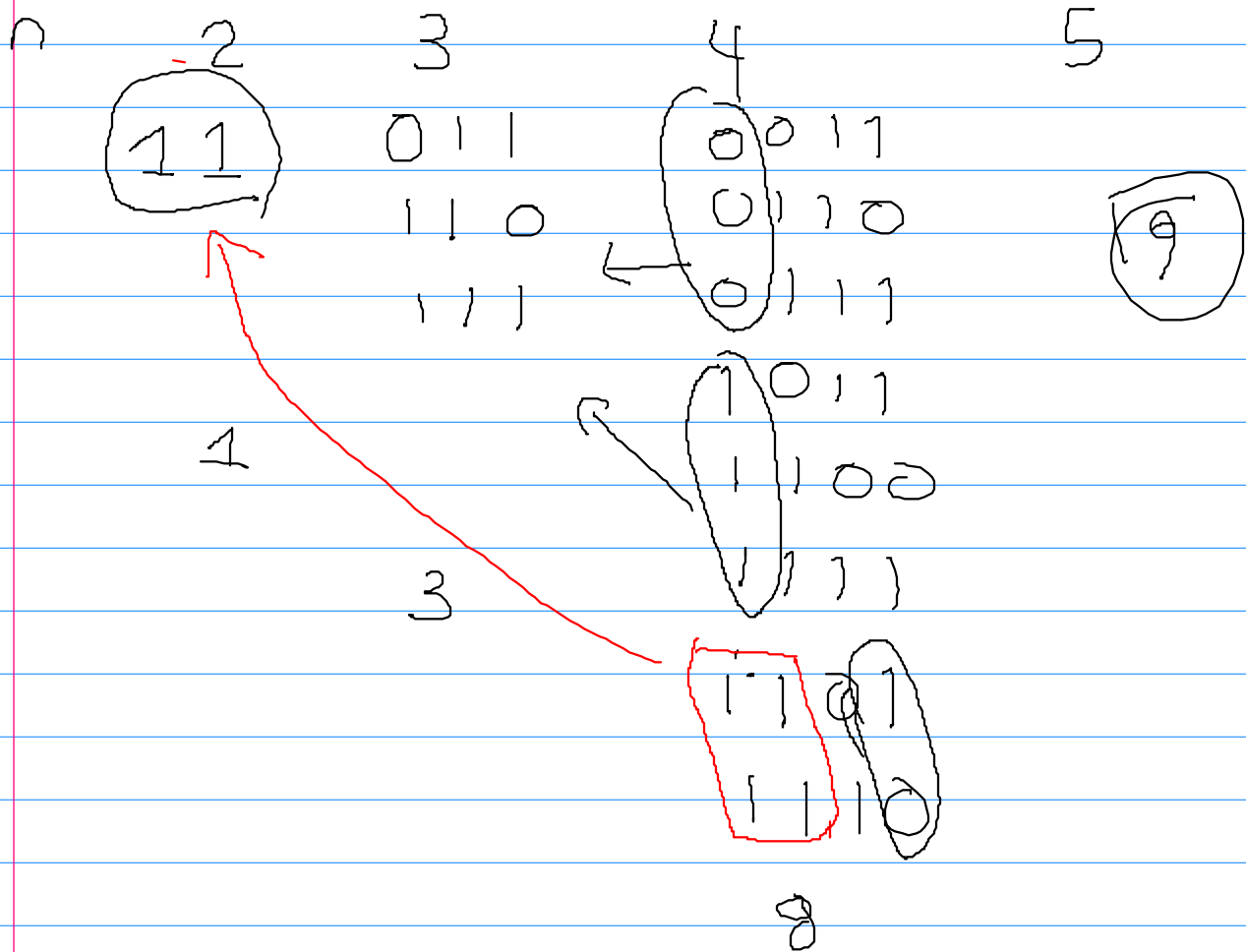
$$T(n) = 4 2^n - 2$$

$$2) \quad T(n) = 11T(n-1) - 30T(n-2) + 5^n$$

$$T^{(n)}(n) = \alpha_1 (5)^n + \alpha_2 (6)^n$$

$$T^{(10)}(n) = A n 5^n$$

3)



$$T(n) = T(n-1) + T(n-2) + 4 \times 2^{n-4}$$

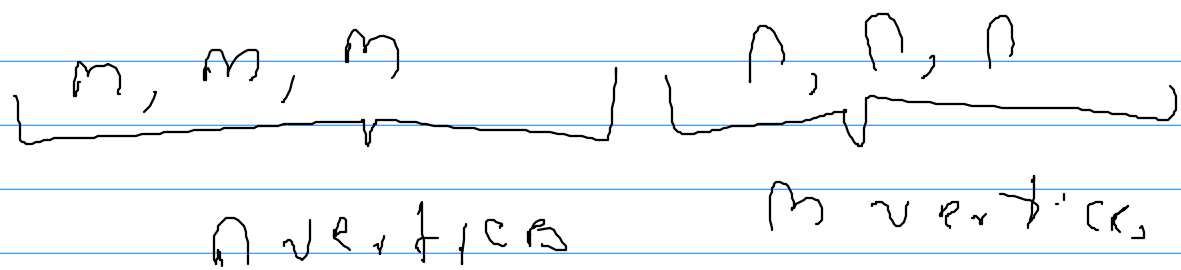
$$T(2) = 1$$

$$T(3) = 3$$

$$T(4) = 3 + 1 + 4 = 8 \checkmark$$

$$T(5) = 8 + 3 + 8 = 19 \checkmark$$

$K_{m,n}$



$$2e = nm + nm$$

$$e = nm$$

Circuito euleriano

1) Simple = no repite

2) Debe tocar las aristas

$a-a$

$\{(a,b), (b,f), (f,g), (g,c), (c,b)$
 $(b,c), (c,d), (d,h), (h,o)$
 $(o,h), (h,g), (g,r), (r,o)$
 $(o,y), (y,z), (z,x), (x,z)\}$

$(z, r), (r, j), (j, x), (x, p)$
 $(p, i), (i, j), (j, f), (f, e)$
 $(e, i), (i, e), (e, a) \}$