

Respuestas del Práctico 6

Primer semestre 2016

Ejercicio 1 1. $a_3 = 24$

2. $a_0 = 1$

3. 3

4. $a_3 = 8$

5. 0

6. $a_3 = 0$

Ejercicio 2 1. $a_n = a_0\left(\frac{3}{2}\right)^n$

2. $a_n = n!a_0$

3. $a_n = \frac{1}{n}a_0$

4. $a_n = 2^{\sum_{i=1}^n p^{i-1}}$

Ejercicio 3 1. $a_n = 3^n$

2. $a_n = 2^{n-2} - 2 \times 5^n$

3. $a_n = -\left(-\frac{1}{3}\right)^{n-1} + 4$

4. $a_n = 3 \sin\left(\frac{\pi n}{2}\right)$

5. $a_n = 2^{n-1}\left(\sin\left(\frac{\pi n}{2}\right) + 2\cos\left(\frac{\pi n}{2}\right)\right)$

6. $a_n = -3^n(n-5)$

7. $a_n = 2^{\frac{n}{2}+2}\sin\left(\frac{3\pi n}{4}\right) + 2^{\frac{n}{2}}\cos\left(\frac{3\pi n}{4}\right)$

8. $b = -4, c = -21, a_n = \frac{7^n - (-3)^n}{10}$

9. $a_n = (n+1)^2$

10. $a_n = n(n-1)^2 + 3$

11. $a_n = 3 \times 2^{n+1} - 5$

12. $a_n = 2^{n-1}(n+2)$

13. $a_n = 3^n(3n-8) + 2^{n+3}$

14. $a_n = a \times n^2 + b \times n + c + \frac{1}{24}(n-2) \times (n-1) \times (5n-3) \times n$

15. $2^{n-1}(n^2 + n + 2)$

16. $a_n = -\frac{1}{2}(-1)^n + \frac{5}{2}n - \frac{1}{2}\cos\left(\frac{n\pi}{2}\right)$

17. $a_n = 3^n - (-3)^n - 2^n + n3^{n-2}$

Ejercicio 4 D

Ejercicio 5 $\alpha = 1, \beta = -2, a_{100} = 1$

- Ejercicio 6
1. $a_{n+1} = a_n + n$
 2. $a_n = a_{n-1} + a_{n-2}$
 3. $a_n = 2a_{n-1} + 2a_{n-2}$
 4. $a_n = a_{n-1} + a_{n-2}$
 5. $a_n = a_{n-1} + a_{n-3}$
 6. $a_n = a_{n-1} + a_{n-2}$
 7. $a_n = 2a_{n-1} + (3^n - a_{n-1})$
 8. $a_n = a_{n-1} + a_{n-2} + a_{n-3}$

- Ejercicio 7
1. 4^n
 2. $4 \times 3^{n-1}$
 3. $a_n = 2a_{n-1} + 3a_{n-2}$

Ejercicio 8 $a_n = a_{n-1} + a_{n-2}$

- Ejercicio 9
1. Verifica: $a_n - 3a_{n-1} + a_{n-2} = 0$
 - 2.

- Ejercicio 10
1. $a_n = \frac{1}{2}3^n + \frac{1}{2}$
 2. $a_n = 5 \times 2^n - 4$

Ejercicio 11 $a_n = 2^n(1 - 2n), b_n = n2^{n+1}$

Ejercicio 12 D

- Ejercicio 13
1. $a_1 = 1, a_2 = 3, a_3 = 15$
 - 2.
 - 3.

Ejercicio 14 $a_n = \begin{cases} 0 & \text{Si } n \text{ es par} \\ -2^{n-1} & \text{Si } n \text{ es impar} \end{cases} \quad b_n = \begin{cases} 2 & \text{Si } n = 0 \\ 2^{n-2} & \text{Si } n \text{ es par} \\ 2^{n-1} & \text{Si } n \text{ es impar} \end{cases}$

Ejercicio 15 $a_n = n! \sum_{i=0}^{i=n} \frac{2^i}{i!}$