

1. $a_1 = 2, a_2 = 5, a_3 = 8, a_{100} = 299$

2. $a_1 = 1, a_2 = 1, a_3 = 2, a_4 = 3$

3. 10

4. 9

5. $a_n = (-1)^{n-1} \cdot 3^{n-1}$

6. $a_n = -4n + 14$

7.

$$\sum_{k=2}^{100} \frac{(-1)^k}{k \ln k}$$

8. $a_1 = -3, a_2 = 3, a_3 = -\frac{9}{4}, a_9 = -\frac{27}{256}$

9. $a_1 = -\frac{3}{4}, a_2 = 2, a_3 = -\frac{7}{2}, a_{21} = -\frac{97}{56}$

10. $a_1 = -2, a_2 = -1, a_3 = 2, a_4 = 11$

11. $a_1 = 0, a_2 = 1, a_3 = 4, a_4 = 17$

12. $S_1 = 1, S_2 = \frac{5}{3}, S_3 = \frac{19}{9}, S_4 = \frac{65}{27}$

13. $S_1 = 7, S_2 = -2, S_3 = 9, S_4 = -4$

14. 175

15. -5

16. $a_n = \frac{(-1)^{n-1} \cdot 3^{n+1}}{\sqrt{2n-1}}$

17. $a_n = \frac{-3n+8}{(n+1)^2}$

18. $a_n = \frac{-2n+3}{2^{n+2}}$

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

20.

$$\sum_{k=1}^7 \frac{6k-15}{2^{k-1}}$$

21.

$$\sum_{k=1}^5 \frac{(-1)^{k-1} \cdot k^3}{5k - 3}$$

22.

$$\sum_{k=1}^5 \frac{(-1)^k \cdot (k + 2)^2}{2^{k+2}}$$

23.

$$\sum_{k=1}^6 \frac{-3k + 7}{5k - 1}$$