

1 [2006 工学院大]

解答 897

2 [2012 関西大]

解答 $a_n = n \cdot 2^{n-1}$

3 [2016 関西大]

解答 $2^n - \frac{1}{n}$

4 [1997 関西学院大]

解答 順に $a_n = 3^{n+1} - 2^{n+1}$, $S_n = \frac{3^{n+2}}{2} - 2^{n+2} - \frac{1}{2}$

5 [2002 広島大]

解答 (1) $b_{n+1} = \frac{1}{3}b_n + \frac{4}{3}$ (2) $a_n = \frac{2}{3^n} - \frac{276}{9^n}$ (3) $n = 5$

6 [2011 中央大]

解答 (1) $a_2 = \frac{3}{2}$, $a_3 = \frac{7}{6}$, $a_4 = \frac{5}{8}$ (2) $b_{n+1} = b_n + \frac{1}{2^{n+1}}$ (3) $a_n = \frac{2^n - 1}{n!}$

7 [2013 鳥取大]

解答 (1) $b_n = 2^n - n - 1$ (2) $n = 8$

8 [2009 島根大]

解答 (1) $b_{n+1} = -\frac{1}{2}b_n + 3$ (2) $b_n = 2\left\{1 - \left(-\frac{1}{2}\right)^{n-1}\right\}$ (3) $a_n = 2^{2\{1 - (-\frac{1}{2})^{n-1}\}}$

9 [2010 弘前大]

解答 (1) $b_{n+1} = \frac{1}{5}b_n$ (2) $a_n = \frac{3 \cdot 5^n + 1}{5^n - 1}$

10 [2010 東京理科大]

解答 (1) 略 (2) $b_{n+1} = b_n + 1$ (3) $a_n = \frac{12n - 5}{4n - 3}$

11 [2011 明治学院大]

解答 $a_2 = \frac{3}{2}$, $a_3 = -2$, $\sum_{k=1}^{100} a_k = -\frac{31}{6}$

12 [2009 早稲田大]

解答 (1) $a_3 = \frac{8}{3}$ (2) $b_{n+1} = \frac{2}{3}b_n$ (3) $a_n = 4 - 3\left(\frac{2}{3}\right)^{n-1}$

13 [2008 室蘭工業大]

解答 (1) $b_n = 3^n$ (2) $a_n = n \cdot 3^{n-1}$

14 [1997 釧路公立大]

【解答】 (1) $b_n = 2^{n-1} + 1$ (2) $a_n = 2^{n-1} + n - 1$ (3) $\frac{2^{n+1} + n^2 - n - 2}{2}$

15 [1999 大阪教育大]

【解答】 (1) $k = \sqrt{3}$, $c_n = (2 + \sqrt{3})^n$ (2) $d_n = (2 - \sqrt{3})^n$
 (3) $a_n = \frac{(2 + \sqrt{3})^n + (2 - \sqrt{3})^n}{2}$, $b_n = \frac{\sqrt{3}\{(2 + \sqrt{3})^n - (2 - \sqrt{3})^n\}}{6}$

16 [2012 近畿大]

【解答】 (ア) -8 (イ) 294 (ウ) 503

17 [2001 山口大]

【解答】 n が奇数のとき $a_n = -\left(\frac{1}{2}\right)^{\frac{n-1}{2}} + 3$, n が偶数のとき $a_n = \left(\frac{1}{2}\right)^{\frac{n}{2}-1} + 3$