

【1】規則を見つけて、次の()を埋めましょう。

1. 1, 2, 3, (4), 5, 6, 7, (8), 9, $\cdots n$
2. (2), 4, 6, 8, 10, (12), 14, 16, 18, $\cdots 2n$
3. 3, 1, (-1), -3, -5, (-7), -9, $\cdots -2n+5$
4. 1, -1, 1, (-1), 1, -1, (1), -1, $\cdots (-1)^{n-1}$
5. 7, 14, 21, (28), 35, (42), 49, 56, $\cdots 7n$
6. 1, 1, 1, 1, (1), 1, 1, 1, (1), $\cdots 1$
7. 2, -4, 8, (-16), (32), -64, $\cdots -(-2)^n$
8. 1, 5, 9, (13), (17), 21, 25, $\cdots 4n-3$
9. 1, -3, 9, -27, (81), -243, (729), $\cdots (-3)^{n-1}$
10. -1, -3, -5, (-7), (-9), (-11), -13, $\cdots -2n+1$
11. 1, 4, (9), 16, (25), 36, 49, 64, $\cdots n^2$
12. 1, 2, 4, (7), 11, 16, 22, (29), $\cdots \frac{1}{2}(n^2-n+2)$
13. (2), 6, 12, 20, 30, 42, (56), 72, $\cdots n(n+1)$
14. (3), 8, 15, 24, 35, (48), 63, $\cdots n(n+2)$
15. 100, 99, 97, (94), 90, 85, 79, (72), $\cdots \frac{1}{2}(200+n-n^2)$
16. 1, 8, 27, (64), 125, 216, 343, (512), $\cdots n^3$
17. 0, -2, -2, (0), 4, 10, 18, 28, 40, (54), $\cdots (n-1)(n-4)$
18. (0), -7, -8, 3, 32, 85, 168, (287), $\cdots 3n^2-3n-7$
19. (-36), -7, 0, -3, -4, 9, 48, (125), $\cdots (n-3)^2(2n-11)$
20. (0), 15, 80, 255, 624, 1295, 2400, 4095, (6560), $\cdots n^4-1$
21. 1, 11, 111, (1111), 11111, (111111), $\cdots \frac{10^n-1}{9}$
22. 11, 101, (1001), 10001, 100001, (1000001), $\cdots 10^n+1$
23. 1, 0, -1, 1, (0), -1, 1, 0, -1, (1), $\cdots 1, 0, -1$ の繰り返し
24. 1, 2, 2, 3, 3, 3, 4, 4, 4, (4), 5, 5, (5), $\cdots$
群数列。第 n 群に n が n 個。
25. 1, $\sqrt{2}$, $\sqrt{3}$, (2), $\sqrt{5}$, $\sqrt{6}$, $\sqrt{7}$, ($2\sqrt{2}$), (3), $\cdots \sqrt{n}$
26. 2, 3, 5, (7), 11, 13, 17, 19, (23), $\cdots$ 素数列

27. 1, 1, 2, 3, 5, 8, (13), 21, 34, (55), $\cdots$ 【Fibonacci】 $a_n + a_{n+1} = a_{n+2}$
28. (9), 11, 99, 101, (999), 1001, 9999, 10001, 99999, $\cdots$
 $a_{2m-1} = 10^m - 1, a_{2m+1} = 10^m + 1$
29. 2, 3, 6, (18), 108, 1944, (209952), $\cdots a_n a_{n+1} = a_{n+2}$
30. (29), 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, (73), $\cdots$ 素数列
31. 60, 30, 20, 15, 12, 10, ($\frac{60}{7}$), ($\frac{15}{2}$), ($\frac{20}{3}$), 6, $\cdots \frac{60}{n}$
32. 1, $-\frac{1}{2}$, $\frac{1}{3}$, ($-\frac{1}{4}$), ($\frac{1}{5}$), $-\frac{1}{6}$, $\frac{1}{7}$, $-\frac{1}{8}$, $\cdots (-1)^{n-1} \cdot \frac{1}{n}$
33. $\frac{1}{3}$, $\frac{2}{3}$, 1, $\frac{2}{3}$, $\frac{1}{3}$, $\frac{2}{3}$, (1), $\frac{2}{3}$, ($\frac{1}{3}$), $\frac{2}{3}$, 1, $\frac{2}{3}$, $\cdots$
 $\frac{1}{3}$, $\frac{2}{3}$, 1, $\frac{2}{3}$ の繰り返し
34. 1, $\frac{1}{2}$, (1), $\frac{1}{3}$, $\frac{2}{3}$, 1, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, 1, ($\frac{1}{5}$), $\frac{2}{5}$, $\cdots$
群数列。第 n 群は、 $\frac{1}{n}, \frac{2}{n}, \cdots, \frac{n}{n} = 1$
35. $\frac{1}{2}$, $\frac{2}{5}$, $\frac{3}{10}$, ($\frac{4}{17}$), $\frac{5}{26}$, $\frac{6}{37}$, $\frac{7}{50}$, ($\frac{8}{65}$), $\frac{9}{82}$, $\cdots \frac{n}{n^2+1}$
36. $-\frac{1}{2}$, $-\frac{3}{4}$, $\frac{5}{6}$, $\frac{7}{8}$, ($-\frac{9}{10}$), $-\frac{11}{12}$, $\frac{13}{14}$, $\frac{15}{16}$, ($-\frac{17}{18}$), $\cdots$
 $\frac{2n-1}{\sqrt{2n}} \sin \frac{2n-5}{4} \pi$
37. (-48), 24, -12, 6, -3, $\frac{3}{2}$, $-\frac{3}{4}$, ($\frac{3}{8}$), $\cdots -48 \times (-0.5)^{n-1}$
38. 2, 2, $\frac{8}{3}$, 4, $\frac{32}{5}$, $\frac{32}{3}$, ($\frac{128}{7}$), (32), $\frac{512}{9}$, $\cdots \frac{2^n}{n}$
39. ($\frac{1}{2}$), $\frac{1}{2}$, $\frac{5}{12}$, $\frac{7}{20}$, $\frac{3}{10}$, $\frac{11}{42}$, ($\frac{13}{56}$), $\frac{5}{24}$, $\cdots \frac{2n-1}{n(n+1)}$
40. 1, $\frac{1}{3}$, $\frac{1}{3}$, $\frac{5}{11}$, $\frac{3}{5}$, $\frac{27}{37}$, $\frac{29}{35}$, ($\frac{121}{135}$), $\frac{31}{33}$, $\cdots$ 【超難問】 $\frac{2^{n-1}-n+1}{2^{n-1}+n-1}$