

Find the sum of the infinite geometric series, if it exists.

1. $-4 - \frac{4}{3} - \frac{4}{9} - \frac{4}{27} - \frac{4}{81} - \dots$ [A] -6 [B] $-\frac{4}{3}$ [C] -3 [D] -4
2. $3 + \frac{3}{2} + \frac{3}{4} + \frac{3}{8} + \frac{3}{16} + \dots$ [A] 6 [B] 2 [C] 10 [D] $\frac{3}{2}$
3. $-4 + 2 - 1 + \frac{1}{2} - \frac{1}{4} + \dots$ [A] $-\frac{8}{5}$ [B] $-\frac{4}{3}$ [C] $-\frac{8}{3}$ [D] 2
4. $-3 - \frac{9}{4} - \frac{27}{16} - \frac{81}{64} - \frac{243}{256} - \dots$ [A] -16 [B] $-\frac{9}{4}$ [C] -12 [D] 12
5. $4 - \frac{8}{3} + \frac{16}{9} - \frac{32}{27} + \frac{64}{81} - \dots$ [A] $\frac{12}{5}$ [B] $\frac{12}{7}$ [C] $-\frac{8}{3}$ [D] $\frac{16}{5}$
6. $-3 + 1 - \frac{1}{3} + \frac{1}{9} - \frac{1}{27} + \dots$ [A] 1 [B] $-\frac{5}{4}$ [C] $-\frac{9}{4}$ [D] $-\frac{3}{2}$
7. $-4 + 1 - \frac{1}{4} + \frac{1}{16} - \frac{1}{64} + \dots$ [A] $-\frac{16}{5}$ [B] $-\frac{16}{7}$ [C] $-\frac{12}{5}$ [D] 1
8. $-3 - 2 - \frac{4}{3} - \frac{8}{9} - \frac{16}{27} - \dots$ [A] -2 [B] -9 [C] -5 [D] -3
9. $-4 + 3 - \frac{9}{4} + \frac{27}{16} - \frac{81}{64} + \dots$ [A] $-\frac{16}{7}$ [B] 3 [C] $-\frac{12}{7}$ [D] $-\frac{16}{9}$
10. $-3 + \frac{9}{5} - \frac{27}{25} + \frac{81}{125} - \frac{243}{625} + \dots$ [A] $-\frac{3}{2}$ [B] $-\frac{15}{8}$ [C] $\frac{9}{5}$ [D] $-\frac{11}{8}$
11. $\sum_{k=1}^{\infty} 3 \left(-\frac{1}{3}\right)^{k-1}$ [A] $\frac{3}{2}$ [B] $\frac{13}{4}$ [C] $\frac{9}{4}$ [D] none
12. $\sum_{k=1}^{\infty} 4 \left(-\frac{3}{4}\right)^{k-1}$ [A] $\frac{16}{7}$ [B] $\frac{16}{9}$ [C] $\frac{20}{7}$ [D] none

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13. $\sum_{k=1}^{\infty} -3(-5)^{k-1}$. [A] $\frac{1}{6}$ [B] $-\frac{3}{8}$ [C] 15 [D] none

14. $\sum_{k=1}^{\infty} -4\left(\frac{1}{4}\right)^{k-1}$. [A] $-\frac{16}{5}$ [B] $-\frac{16}{3}$ [C] -4 [D] none

15. $\sum_{k=1}^{\infty} 4\left(\frac{3}{4}\right)^{k-1}$. [A] 16 [B] -16 [C] 12 [D] none

16. $\sum_{k=1}^{\infty} 3(4)^{k-1}$. [A] -3 [B] 12 [C] $-\frac{7}{3}$ [D] none

17. $\sum_{k=1}^{\infty} -4\left(\frac{2}{3}\right)^{k-1}$. [A] -4 [B] -12 [C] -8 [D] none

18. $\sum_{k=1}^{\infty} 3\left(-\frac{1}{4}\right)^{k-1}$. [A] $\frac{12}{7}$ [B] $\frac{16}{5}$ [C] $\frac{12}{5}$ [D] none

19. $\sum_{k=1}^{\infty} -4\left(-\frac{2}{3}\right)^{k-1}$. [A] $-\frac{12}{7}$ [B] $-\frac{12}{5}$ [C] $-\frac{8}{5}$ [D] none

20. $\sum_{k=1}^{\infty} 4(6)^{k-1}$. [A] $-\frac{4}{3}$ [B] 24 [C] $-\frac{8}{5}$ [D] none

21. $4 - \frac{4}{3} + \frac{4}{9} - \frac{4}{27} + \frac{4}{81} - \dots$

22. $-3 - \frac{3}{4} - \frac{3}{16} - \frac{3}{64} - \frac{3}{256} - \dots$

23. $-4 - \frac{4}{3} - \frac{4}{9} - \frac{4}{27} - \frac{4}{81} - \dots$

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$$24. \quad 3 + \frac{9}{2} + \frac{27}{4} + \frac{81}{8} + \frac{243}{16} + \dots$$

$$25. \quad -3 + \frac{3}{4} - \frac{3}{16} + \frac{3}{64} - \frac{3}{256} + \dots$$

$$26. \quad 4 - \frac{8}{3} + \frac{16}{9} - \frac{32}{27} + \frac{64}{81} - \dots$$

$$27. \quad -4 + 24 - 144 + 864 - 5184 + \dots$$

$$28. \quad -3 - 2 - \frac{4}{3} - \frac{8}{9} - \frac{16}{27} - \dots$$

$$29. \quad -4 - 2 - 1 - \frac{1}{2} - \frac{1}{4} - \dots$$

$$30. \quad 3 - \frac{3}{2} + \frac{3}{4} - \frac{3}{8} + \frac{3}{16} - \dots$$

$$31. \quad \sum_{k=1}^{\infty} 3 \left(-\frac{2}{3} \right)^{k-1}.$$

$$32. \quad \sum_{k=1}^{\infty} -4 \left(-\frac{5}{6} \right)^{k-1}.$$

$$33. \quad \sum_{k=1}^{\infty} 3 \left(\frac{4}{7} \right)^{k-1}.$$

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$$34. \sum_{k=1}^{\infty} 4 \left(\frac{2}{3} \right)^{k-1} .$$

$$35. \sum_{k=1}^{\infty} -3 \left(\frac{4}{5} \right)^{k-1} .$$

$$36. \sum_{k=1}^{\infty} 4 \left(-\frac{1}{4} \right)^{k-1} .$$

$$37. \sum_{k=1}^{\infty} -3 \left(-\frac{3}{4} \right)^{k-1} .$$

$$38. \sum_{k=1}^{\infty} -4 \left(-\frac{2}{5} \right)^{k-1} .$$

$$39. \sum_{k=1}^{\infty} 3 \left(-\frac{1}{3} \right)^{k-1} .$$

$$40. \sum_{k=1}^{\infty} 4 \left(\frac{3}{5} \right)^{k-1} .$$