

Find S_5 for each sequence described below.

1. $a_n = 2n$

$$S_5 = \underline{\hspace{2cm}}$$

2. $a_n = 2^n$

$$S_5 = \underline{\hspace{2cm}}$$

3. $a_n = 3n + 1$

$$S_5 = \underline{\hspace{2cm}}$$

4. $a_n = 2(3)^{n-1}$

$$S_5 = \underline{\hspace{2cm}}$$

5. $a_{n+1} = a_n + 5$; $a_1 = 2$

$$S_5 = \underline{\hspace{2cm}}$$

6. $a_{n+1} = 0.5a_n$; $a_1 = 4$

$$S_5 = \underline{\hspace{2cm}}$$

7. $a_{n+1} = -3a_n + 5$; $a_1 = 1$

$$S_5 = \underline{\hspace{2cm}}$$

8. $a_{n+1} = 0.1a_n$; $a_1 = 0.3$

$$S_5 = \underline{\hspace{2cm}}$$

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Evaluate each of the following sums.

9. $\sum_{i=1}^5 3i = \underline{\hspace{2cm}}$

10. $\sum_{i=1}^3 2^i = \underline{\hspace{2cm}}$

11. $\sum_{i=1}^7 \frac{i}{3} = \underline{\hspace{2cm}}$

12. $\sum_{k=3}^6 (2k+1) = \underline{\hspace{2cm}}$

13. $\sum_{k=1}^4 k^2 = \underline{\hspace{2cm}}$

14. $\sum_{j=1}^{100} j = \underline{\hspace{2cm}}$

15. $\sum_{j=1}^{12} (-1)^j \binom{j}{12} = \underline{\hspace{2cm}}$