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Question 1

- (a) Find the number of terms in the geometric series

$$1 + 3 + 9 + 27 + \dots + 177\,147.$$

- (b) Calculate the sum of the series in part (a).

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Question 2

3. The sum of the first
- $n$
- terms of a series is given by

$$S_n = 2n^2 - n, \text{ where } n \in \mathbb{Z}^+.$$

- (a) Find the first three terms of the series.
- (b) Find an expression for the  $n^{\text{th}}$  term of the series, giving your answer in terms of  $n$ .

*Working:*

*Answers:*

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_