What is the missing number in the sequence "1, 8, 4, 27, 9, ___?" [CSS GSA 2023]

A. 16
B. 64
C. 16/3
D. 12

Show Answer…
Correct Answer: B (64)

Explanation:

The sequence follows the pattern of raising each number to a certain power.

> 1 raised to the power of 1 equals 1
> 2 raised to the power of 3 equals 8
> 3 raised to the power of 2 equals 9
> 4 raised to the power of 3 equals 64

Therefore, the missing number is 64, which is 4 raised to the power of 3.

Option A, 16, is incorrect because it is 2 raised to the power of 4, which does not fit the pattern of the sequence. Option C, 16/3, is also incorrect because it does not fit any known mathematical pattern in the sequence. Option D, 12, is also incorrect because it is not related to any known mathematical pattern in the sequence.

In summary, the missing number in the sequence "1 8 4 27 9 ?" is 64, which is 4 raised to the power of 3.