

This Question was first asked in IIT mains(2014)
& in NEET (2021) .

Read carefully & try to solve yourself
first . Then see the " Short trick" .

A small block slides without friction down an inclined plane from rest. If

s_n is the distance covered from $t = n-1$ to $t = n$, Then $\frac{s_n}{s_{n+1}}$ is

- (a) $\frac{2n-1}{2n}$ (b) $\frac{2n+1}{2n-1}$ (c) $\frac{2n-1}{2n+1}$ (d) $\frac{2n}{2n+1}$

See, we know that a body starting from rest under the const. acceleration covers distances in 1st, 2nd & 3rd, 4th sec.

in the ratio $1 : 3 : 5 : 7$.

So if you put "n" as a number, say - 1.

Then Ratio $\frac{S_n}{S_{n+1}} \Rightarrow \frac{S_1}{S_2}$ which is $\frac{1}{3}$

so put $n=1$ in all the given options

only option "c" equals $\frac{1}{3}$

Hence "c" is correct.