Sherlock's Speedy Chase

- **Time Limit: 1 Second**
- **Memory Limit: 256 MB**

Alright, picture this: Sherlock Holmes is on a wild chase after Moriarty, and guess what? He's managed to figure out exactly where that tricky guy is hiding. But here's the catch: the streets of London are crazy busy, and to catch Moriarty, Sherlock's gotta pass **n** connected buildings to get to the last one where Moriarty's chilling.

Now, Sherlock's not a regular guy; he's got some serious moves. Every second, he can go up, down, or forward up to **k** meters. So if he's got less than **k** meters left to climb (or fall), he's like, "No big deal!" and just finishes that in a second. Oh, and they're both chilling on the ground at the start, just so you know.

Each building has a width of **k** meters, so Sherlock doesn't even need to sweat it when crossing the street—he just walks across it in 1 second. You've gotta figure out how fast Sherlock can catch up with Moriarty and tell us the minimum time it'll take him.

Input

There are three lines coming your way:

1. The first line gives you **k** – the max distance Sherlock can move in one second.
2. The second line gives you **n** – the number of buildings.
3. The third line gives you **n** numbers, each representing the height of the buildings in meters.

Constraints:

$1 \leq k, n, a_i \leq 1000$

Output

Print the minimum time it'll take Sherlock to finally catch up with Moriarty.

Input 1:

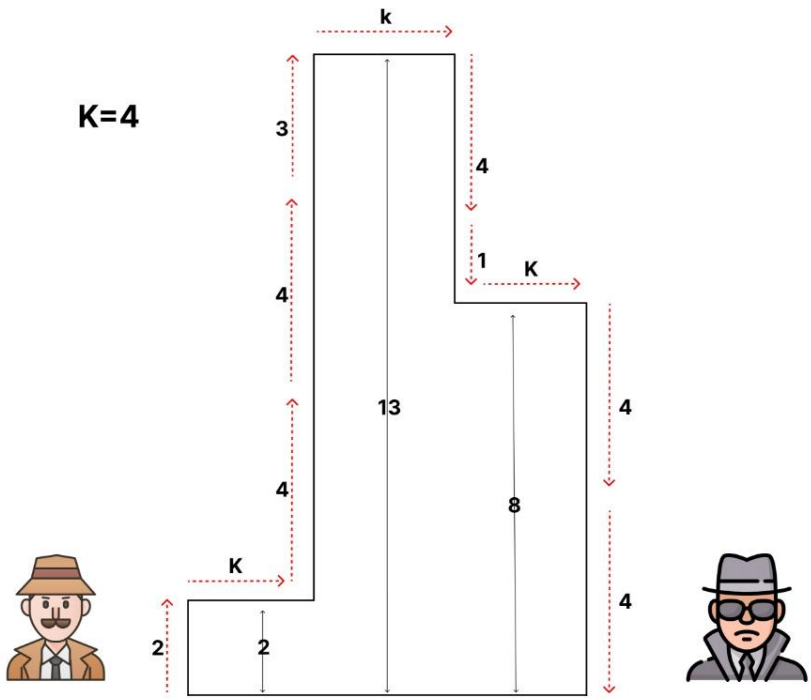
4

3

2 13 8

Output 1:

11



Explanation:

- Sherlock can move up to 4 meters every second.
- He starts off at building 1, which is only 2 meters tall. So in 1 second, he climbs it.
- Then, he crosses the building in another second (because it's **k** meters wide).
- For building 2, Sherlock has to climb up 11 meters. It takes him 3 seconds (he's a fast climber, but not *that* fast).
- He crosses the next building in 1 second.
- Then he drops 5 meters to get to building 3 in 2 seconds.
- Crosses building 3 in 1 second.
- Finally, he drops 8 meters to the ground and catches Moriarty in 2 more seconds.

So, all in all, it takes Sherlock a grand total of **11** seconds.

Input 2:

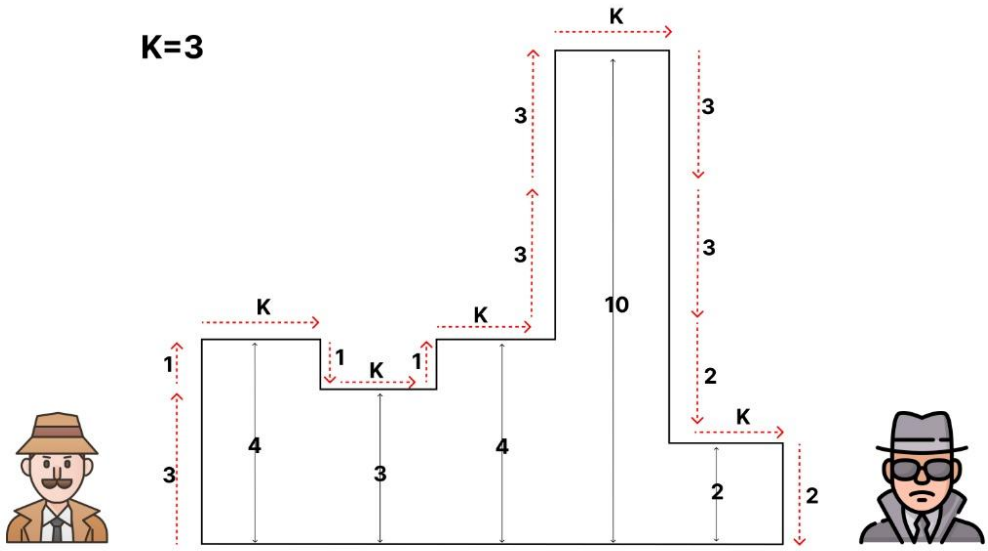
3

5

4 3 4 10 2

Output 2:

15



Explanation:

- Sherlock's max speed is 3 meters per second.
- This time, he's got 5 buildings to go through.

In total, Sherlock takes **15** seconds to make it across all the buildings, just like the red arrows show in the example diagram. Pretty fast, huh?