774. Minimize Max Distance to Gas Station

Description

You are given an integer array `stations` that represents the positions of the gas stations on the **x-axis**. You are also given an integer `k`.

You should add `k` new gas stations. You can add the stations anywhere on the **x-axis**, and not necessarily on an integer position.

Let `penalty()` be the maximum distance between **adjacent** gas stations after adding the `k` new stations.

Return *the smallest possible value of* `penalty()`. Answers within `10`⁻⁶ of the actual answer will be accepted.

Example 1:

```
Input: stations = [1,2,3,4,5,6,7,8,9,10], k = 9
Output: 0.50000
```

Example 2:

```
Input: stations = [23,24,36,39,46,56,57,65,84,98], k = 1
Output: 14.00000
```

Constraints:

- `10 <= stations.length <= 2000`
- `0 <= stations[i] <= 10`^{8}
- `stations` is sorted in a **strictly increasing** order.
- `1 <= k <= 10`^{6}