2521. Distinct Prime Factors of Product of Array

Description

Given an array of positive integers `nums`, return *the number of **distinct prime factors** in the product of the elements of* `nums`.

Note that:

- A number greater than `1` is called **prime** if it is divisible by only `1` and itself.
- An integer `val1` is a factor of another integer `val2` if `val2 / val1` is an integer.

Example 1:

```
Input: nums = [2,4,3,7,10,6]
Output: 4
Explanation:
The product of all the elements in nums is: 2 * 4 * 3 * 7 * 10 * 6 = 10080 = 2^5 * 3^2 * 5 * 7.
There are 4 distinct prime factors so we return 4.
```

Example 2:

```
Input: nums = [2,4,8,16]
Output: 1
Explanation:
The product of all the elements in nums is: 2 * 4 * 8 * 16 = 1024 = 2^10.
There is 1 distinct prime factor so we return 1.
```

Constraints:

- `1 <= nums.length <= 10^4`
- `2 <= nums[i] <= 1000`