The **product difference** between two pairs (a, b) and (c, d) is defined as (a \* b) - (c \* d).

* For example, the product difference between (5, 6) and (2, 7) is (5 \* 6) - (2 \* 7) = 16.

Given an integer array nums, choose four **distinct** indices w, x, y, and z such that the **product difference** between pairs (nums[w], nums[x]) and (nums[y], nums[z]) is **maximized**.

Return *the* ***maximum*** *such product difference*.

**Example 1:**

Input: nums = [5,6,2,7,4]  
Output: 34  
Explanation: We can choose indices 1 and 3 for the first pair (6, 7) and indices 2 and 4 for the second pair (2, 4).  
The product difference is (6 \* 7) - (2 \* 4) = 34.

**Example 2:**

Input: nums = [4,2,5,9,7,4,8]  
Output: 64  
Explanation: We can choose indices 3 and 6 for the first pair (9, 8) and indices 1 and 5 for the second pair (2, 4).  
The product difference is (9 \* 8) - (2 \* 4) = 64.

**Constraints:**

* 4 <= nums.length <= 104
* 1 <= nums[i] <= 104