Comet Number

A positive integer **X** is a comet number if there exists 5 positive integers **A B C D E** such that:

- **A + B + C + D = X**
- **A + E, B - E, C * E,** and **D** / **E** are pairwise equal, meaning **A + E = B - E = C * E = D** / **E**

Kanata gave Suisei **N** positive integers A_i for $1 \le i \le N$.

Suisei would like to know whether A_i is a comet number or not.

Input Format

The first line contains an integer **N**.

The next **N** lines contain an integer A_i

Output Format

Print **N** lines.

The **i**-th line contains the string "YES" (without quotes) if A_i is a comet number and "NO" (without quotes) otherwise.

Sample Input

```
4
8
1
69
128
```

Sample Output

```
YES
NO
NO
YES
```

Explanation

8 is a comet number as there exists a valid quintuple **(A, B, C, D, E) = (1, 3, 2, 2, 1)**.

128 is a comet number as there exists a valid quintuple **(A, B, C, D, E) = (31, 33, 32, 32, 1)**.

Constraints

$1 \le N, A_i \le 10^5$