964. Least Operators to Express Number

Description

Given a single positive integer `x`, we will write an expression of the form `x (op1) x (op2) x (op3) x ...` where each operator `op1`, `op2`, etc. is either addition, subtraction, multiplication, or division (`+`, `-`, `*`, or `/)`. For example, with `x = 3`, we might write `3 * 3 / 3 + 3 - 3` which is a value of `3`.

When writing such an expression, we adhere to the following conventions:

- The division operator (`/`) returns rational numbers.
- There are no parentheses placed anywhere.
- We use the usual order of operations: multiplication and division happen before addition and subtraction.
- It is not allowed to use the unary negation operator (`-`). For example, "`x - x`" is a valid expression as it only uses subtraction, but "`-x + x`" is not because it uses negation.

We would like to write an expression with the least number of operators such that the expression equals the given `target`. Return the least number of operators used.

Example 1:

```
Input: x = 3, target = 19
Output: 5
Explanation: 3 * 3 + 3 * 3 + 3 / 3.
The expression contains 5 operations.
```

Example 2:

```
Input: x = 5, target = 501
Output: 8
Explanation: 5 * 5 * 5 * 5 - 5 * 5 * 5 + 5 / 5.
The expression contains 8 operations.
```

Example 3:

```
Input: x = 100, target = 100000000
Output: 3
Explanation: 100 * 100 * 100 * 100.
The expression contains 3 operations.
```

Constraints:

- `2 <= x <= 100`
- `1 <= target <= 2 * 10^8`