Equation Simplification

You will be given a JSON file as an input. This file will contain a equation in a structured format like this:

```
{
    "op": "equal",
    "lhs": {
        "op": "add",
        "lhs": 1,
        "rhs": {
            "op": "multiply",
            "lhs": "x",
            "rhs": 10
        }
    },
    "rhs": 21
}
```

This particular example represents this equation:

$$1 + (x * 10) = 21$$

Notes:

- The operations possible add: add, subtract, multiply, divide, and equal
- Each operation will have a LHS and a RHS. The LHS / RHS of a operation can be:
    - another operation,
    - Or a fixed number,
    - Or a variable reference
- The input files will be limited to have the following characteristics:
    - Top level operation will always be ‘equal’
    - RHS will always be a fixed number
    - LHS can be complex. But there will only be a single variable reference (x) that occurs somewhere in the LHS. All other leaf nodes will be fixed numbers.

Your goal is to:

1. Parse the JSON into a structured format, and write a function to pretty-print the parsed equation, in a single line with brackets, like this:

    $$1 + (x * 10) = 21$$

2. Transform the expression so that you have ‘x’ on one side, and all the operations on the other side. In this example, a transformed expression can be: $x = (21 - 1) / 10$

   You should then print this simplified expression

3. Finally, evaluate the expression on the other side and find the value of ‘x’.

   For our input files, assume that ‘x’ is always solvable.