1. **Digital Electronics**
The circuit translates to $A(B + B)$. This simplifies to $A$. The circuit is TRUE for $(1, 0)$ and $(1, 1)$. It is FALSE for $(0, 1)$ and $(0, 0)$.

2. **Prefix/Postfix**
The given expression converts to infix as follows:

$$A ((A + B) / (C - (A / B)))$$

This converts to prefix as follows:

$$* A / + AB - C / AB$$

3. **Prefix/Postfix**
Converting the formula to infix produces the following:

$$V = 4 / 3 * \pi * R \uparrow 3$$

This converts to prefix as follows

$$= V * * / 4 3 \pi \uparrow R 3$$

4. **Data Structures**
The following is the result after each operation:

- B, BI, BIN, IN, IND, ND, NDS, DS

The next item to be popped would be the D

5. **Data Structures**
Vulcan becomes the right child of VENUS. The values to be added are:

$$2+3+3+3+4+4+4+4 = 30$$