We know that:

we also know that the price of each token is defined by the partial derivatives:

and

We also know that market cap for each token is defined by:

and

Expanding the above using the formulas for price and doing some algebraic simplification we can deduce that:

and , as

Therefore, the supply of the stable coin:

or , and we know that the price of stable coin is 1.

Therefore,

We can now find the supply of the volatile token:

is the same as and

Therefore, can be simplified to deduce:

We can now plug the supply values of each token into the pricing formulas to deduce the price of each token.

Whenever both tokens are minted simultaneously, or the bonding curve is initialized we need to do the above calculations to compute the supply changes and prices.