H3A

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1.

A . F(a) ∨ V(a)

B . S(a,b) ∨ S(b,a)

C . ~F(c)6V(c)

D . (F(a)^~V(a)) ∨ (~F(a)^V(a))

2.

A. Cauliflower is not a fruit and it is not a vegetable.

B. Banana is not vegetable or banana is not fruit and cauliflower is not vegetable.

C. Banana is not vegetable or not fruit, and cauliflower is a vegetable.

D. Apple is fruit and apple is sweeter than banana, or banana is fruit and banana is sweeter than apple.

3.

B. ~V(b) v ~[F(b) ^ V(c)]

C. [~V(b) v ~F(b)] ^ V(c)

B and C are different because they actually have different means.

Because, B is a disjunction, so one of each left and right sides is true then the entire expression would be true.

On the contrary, C is a conjunction and it needs to have both sides true to make the expression true.

One situation (or counter example) that makes only one of the statement true is:

Banana is not a vegetable but fruit. And cauliflower is not vegetable. In this case, B will be true since the left side is true. And C is false since not both sides in B are true.