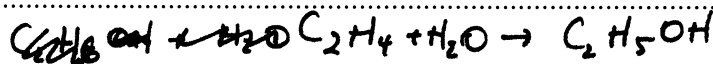


## Question 24 (4 marks)

In the margarine industry, alkenes are often hydrogenated to convert unsaturated oils into solid fats that have a greater proportion of saturated molecules.

- (a) Using ethene as an example, write an equation for this reaction and state the type of reaction this represents. 2



This is an addition reaction.

- (b) Describe a test that could be used to confirm that all the ethene has been converted. 2

To confirm that all the ethene has converted, the solution is mixed with bromine. Bromine has a brown colour on its own, but when reacted with ethene, it turns colourless. If the solution is brown when bromine is added, then all the ethene has reacted.