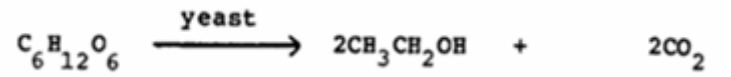
Sheet on bioenergy

due 27/11/2018 at 12:00 PM

Student name: .....

1- Fermentation of a sample of glucose using yeast has produced 300 mL of ethanol according to the following chemical equation:



Calculate the amount of the used sugar sample knowing that the density of ethanol is 0.79 g/mL .

2- Fermentation of 1 kg of contaminated sugar sample using yeast has produced 250 g of ethanol. Calculate the percentage of glucose in this sample by the aid of the chemical equation in ex.3

3- Knowing that fermentation of one mole of sucrose ($C_{12}H_{22}O_{11}$) needs one mole of water to produce four moles of ethanol. Write down the chemical equation of conversion of sucrose into ethanol, and calculate the amount needed to produce one liter of ethanol.

4- According to the following scheme, how much ethanol will be produced if you fermented 5 kg banana peels whose cellulose content is 30%.