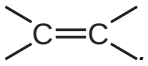
CALCULATE THE NUMBER OF DOUBLE BONDS

4.5.1

A better way of measuring the degree of unsaturation is to find the iodine number of the unsaturated compound. This is the mass of iodine that reacts with all the double bonds in 100 g of the fat.

Use the following information to calculate the number of double bonds in one molecule of the fat.

Mass of one mole of the fat is 884 g.

One mole of I_2 reacts with one mole 

The iodine number of the fat is 86.2 g.

Complete the following calculation.

100 g of fat reacts with 86.2 g of iodine.

884 g of fat reacts with ..... g of iodine.

One mole of fat reacts with ..... moles of iodine molecules.

Number of double bonds in one molecule of fat is ..... [3]

100g of fat react with 86.2g of iodine
884g of fat react with **762** g of iodine [1]
limit 762 x 2
one mole of fat reacts with 762/254 moles of iodine molecules
one mole of fat reacts with **3** moles of iodine molecules [1]

number of double bonds in one molecule of fat is **3** [1]
limit 6
consequential marking allowed provided the number of double bonds is an integer.