a hydrocarbon contains 82.7% C and 17,24% H by mass. 1 mole of hydrocarbon weighed 58g. find the molecular formula of the hydrocarbon

$C_X H_Y$

$$X:Y = \frac{\omega(C)}{M(C)} : \frac{\omega(H)}{M(H)} = \frac{82.7}{12} : \frac{17.24}{1} = 6.89:17.24 = 1:2.5 = 2:5$$

$C_4 H_{10}$

$$M = 12*4 + 1*10 = 58 g/mol$$

C₄H₁₀