Since one molecule of chlorine consist of two atoms of chlorine (Chlorine is diatomic molecule), then average atomic mass = $\frac{1}{2} \times$ Average molecular mass

$$= \frac{1}{2} \times 71.\,\text{m.u} = \ 35.5\ \text{a.m.u}$$

Thus average atomic mass is 35.5 a.m.u

Let % abundance of ^{35}Cl be y that of ^{37}Cl be x.

Then x+y = 100 (Total % abundances must be 100)

From which, x = 100 - y

So using $A_r = \frac{\sum(\text{isotopic mass} \times \text{percentage abundance})}{100}$

Then 35.5 = $\frac{35y+37(100-y)}{100}$

Or 3550 = 35y + 3700 – 37y

From which 2y = 150; y = 75 and x = 100-y = 100-75 = 25

Thus the relative abundance of ^{35}Cl is 75%

The relative abundance of ^{37}Cl is 25%

The above alternative solution is given for purpose of expanding your knowledge but it is **incorrect** according to the given instructions because of the word **'hence' ……** It tell us to find relative abundances before calculating the average atomic mass and not vice-versa.