Two tuning forks of very close frequencies are sounded together. A beat frequency of 3 Hz is heard. If the frequency of one tuning fork is 450 Hz, what is the frequency of the other?

Given:

Frequency of first tuning fork: $f_1 = 450$ Hz

Beat frequency: $\Delta f = 3$ Hz

Determine: frequency of the second tuning fork: f_2

Use formula:

Beat frequency:

$$\Delta f = |f_1 - f_2| \text{ ----------(1)}$$

Substituting for Δf and f_1 in (1):

f_2 = 453 Hz

or

f_2 = 447 Hz