

Creation of Beats

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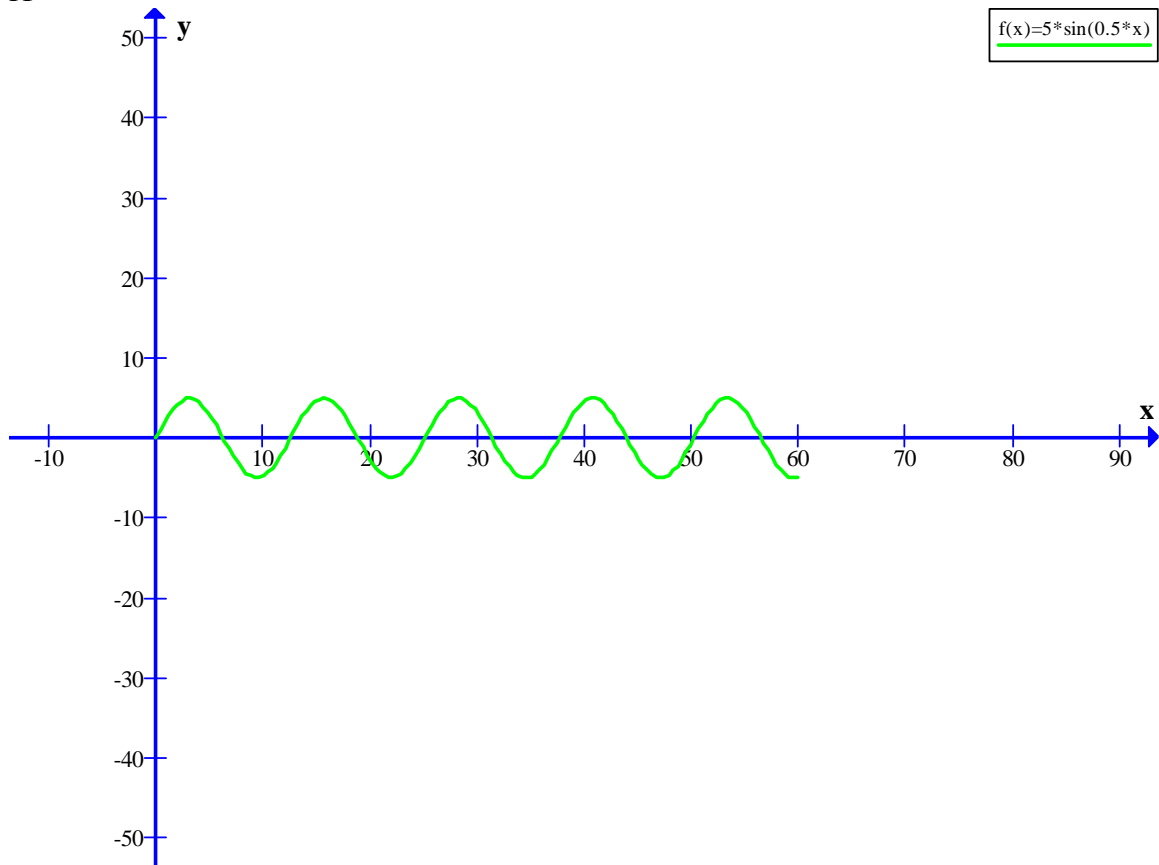
When two waves of nearly equal frequencies traveling along the same direction, there is a chance for superimposition of the amplitudes of the waves. Then the intensity of the resultant wave rises and falls regularly with time.

The phenomenon of regular variation in the intensity of wave with time at a particular position when two waves of nearly equal frequencies superimpose on each other is called beats.

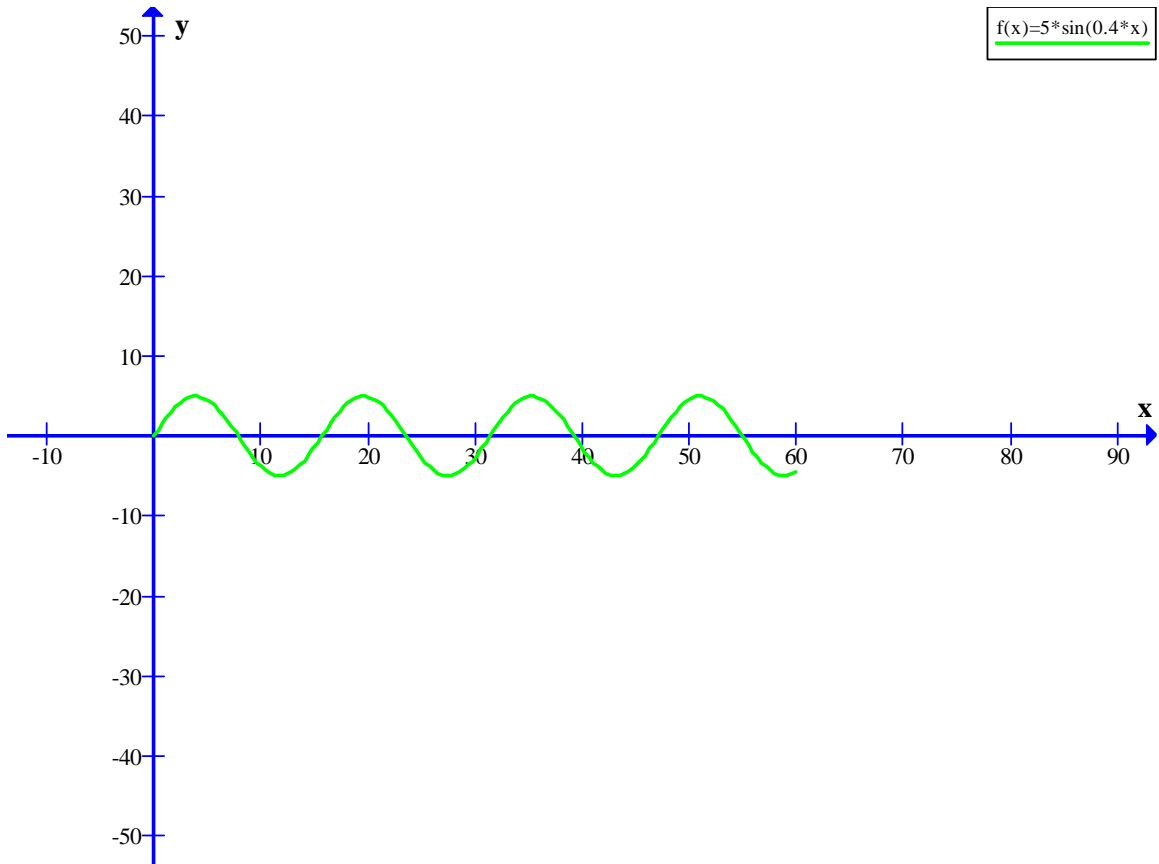
The number of beats heard per second is called 'beat frequency'. It will be equal to the difference of component wave frequencies. While playing with waves, the creation of beats is a wonderful feeling. Sometimes it may be sound-but not only for sound. The graphical representation of sound is given.

Consider two waveforms of frequencies f_1 and f_2 .

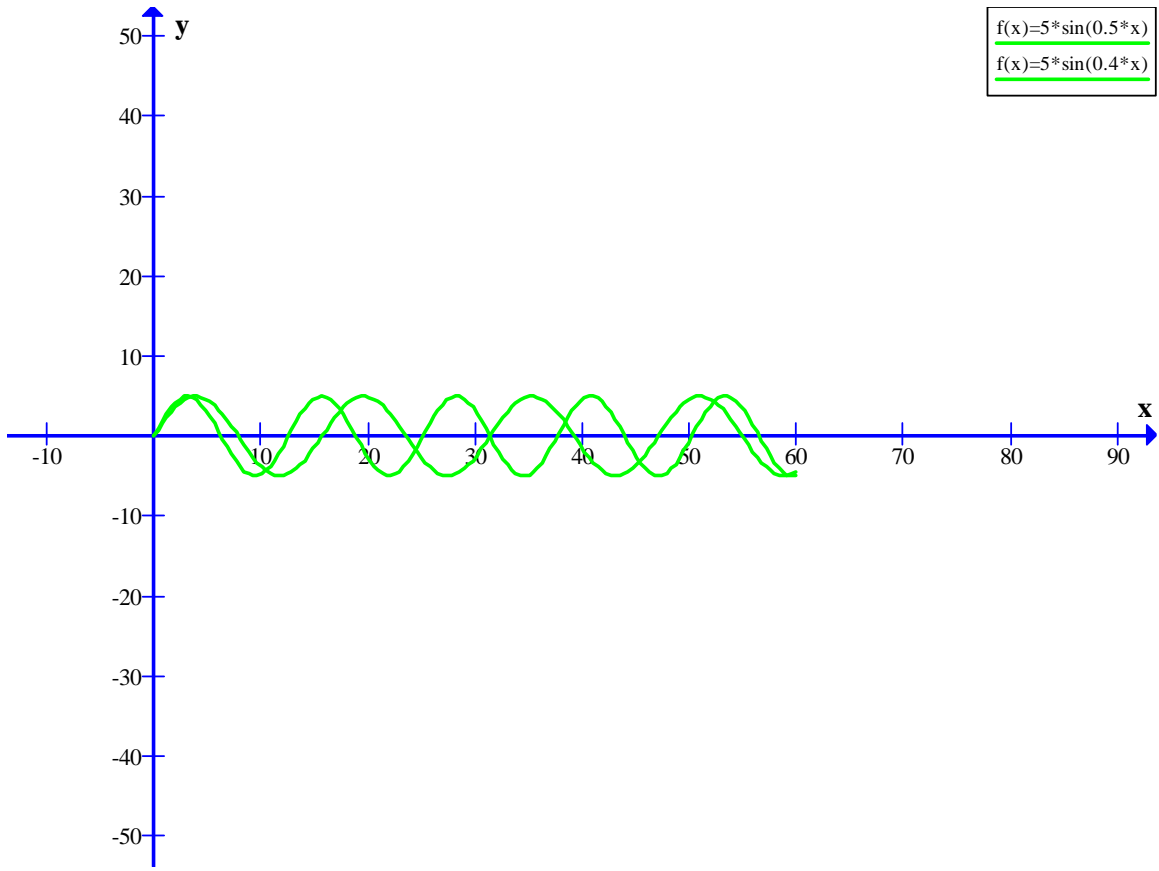
f_1

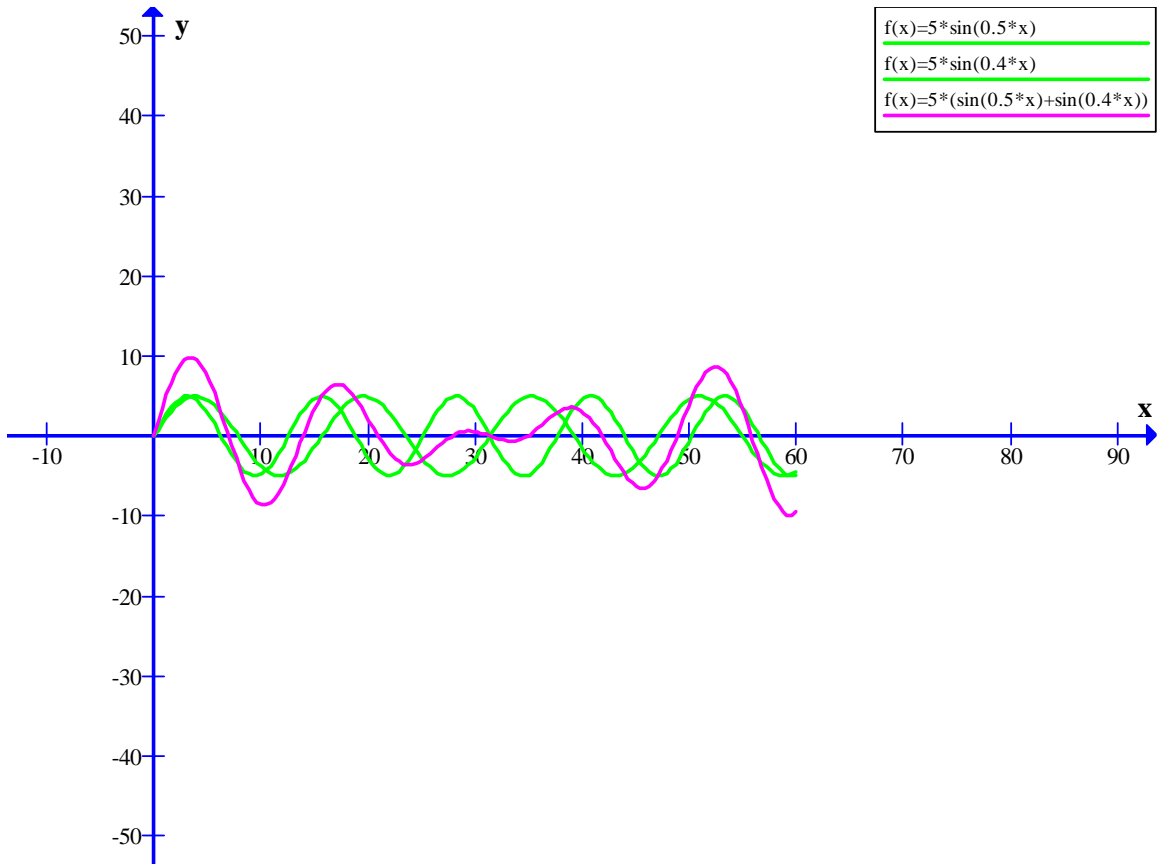


f_2

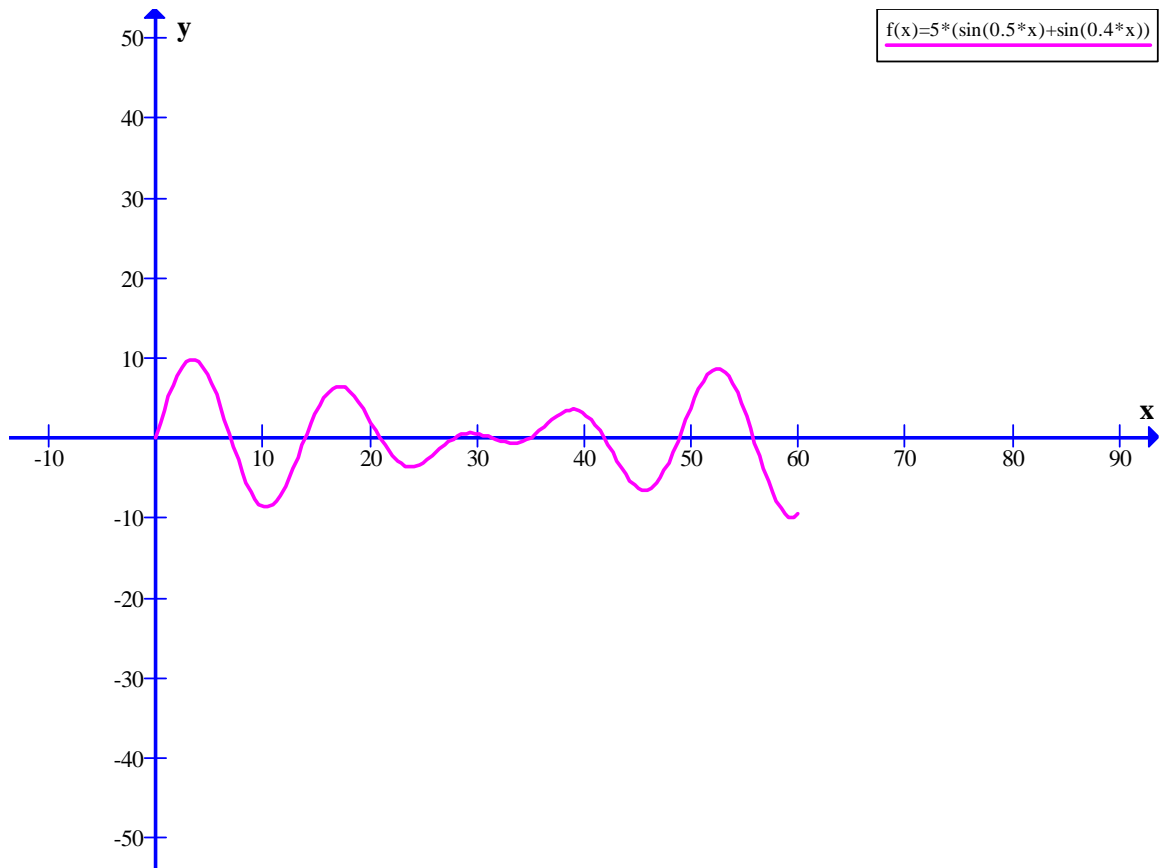


When waves of f_1 and f_2 are combined the resultant waveform will be as shown.





Then beat wave is,



See another beat wave.

