

ChatGPT on Solfeggio Tones and their harmonics

The concept of "solfeggio frequencies" is a controversial one that lacks scientific evidence, and there is no widely agreed-upon set of frequencies that make up the solfeggio scale.

However, some proponents of the solfeggio frequencies claim that they are based on ancient Gregorian chants and correspond to specific frequencies that have healing and spiritual properties. According to this theory, the six solfeggio frequencies are:

1. UT - 396 Hz
2. RE - 417 Hz
3. MI - 528 Hz
4. FA - 639 Hz
5. SOL - 741 Hz
6. LA - 852 Hz

These frequencies are said to correspond to the following fundamental tones:

1. UT - 147 Hz
2. RE - 165 Hz
3. MI - 196 Hz
4. FA - 221 Hz
5. SOL - 264 Hz
6. LA - 297 Hz

However, it should be noted that there is no scientific evidence to support the claims that the solfeggio frequencies have healing or spiritual properties, and the idea that they are related to specific fundamental tones is not widely accepted in the scientific community.

NOTE: THE FREQUENCIES ABOVE MAY OR MAY NOT CORRESPOND TO THE "REAL" OR "ACCEPTED" SOLFEGGIO TONES. THE QUESTIONS BELOW ARE BASED ON THE FREQUENCIES USED ON MOST WIDELY-ACCEPTED FREQUENCIES KNOWN AS SOLFEGGIO TONES

Q: please calculate the fundamental frequency for which 174Hz is a harmonic

To calculate the fundamental frequency for which 174Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 174Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$174\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 174\text{Hz} / n$$

Now we need to find the value of "n" for which 174Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 87\text{Hz} \quad n = 3, f = 58\text{Hz} \quad n = 4, f = 43.5\text{Hz} \quad n = 5, f = 34.8\text{Hz} \quad n = 6, f = 29\text{Hz}$$

We can see that the frequency of 174Hz is exactly two times the frequency of 87Hz, which means that 174Hz is the second harmonic of 87Hz. Therefore, the fundamental frequency for which 174Hz is a harmonic is 87Hz.



Q: same for 285Hz

To calculate the fundamental frequency for which 285Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 285Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$285\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 285\text{Hz} / n$$

Now we need to find the value of "n" for which 285Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 142.5\text{Hz} \quad n = 3, f = 95\text{Hz} \quad n = 4, f = 71.25\text{Hz} \quad n = 5, f = 57\text{Hz} \quad n = 6, f = 47.5\text{Hz}$$

We can see that none of these frequencies is exactly equal to 285Hz. Therefore, it is unlikely that 285Hz is a harmonic of a simple fundamental frequency. However, it is possible that 285Hz is a harmonic of a more complex waveform with multiple frequencies.



Q: same for 396Hz

To calculate the fundamental frequency for which 396Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 396Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$396\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 396\text{Hz} / n$$

Now we need to find the value of "n" for which 396Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 198\text{Hz} \quad n = 3, f = 132\text{Hz} \quad n = 4, f = 99\text{Hz} \quad n = 5, f = 79.2\text{Hz} \quad n = 6, f = 66\text{Hz}$$

We can see that the frequency of 396Hz is exactly two times the frequency of 198Hz, which means that 396Hz is the second harmonic of 198Hz. Therefore, the fundamental frequency for which 396Hz is a harmonic is 198Hz.



Q: same for 417Hz

To calculate the fundamental frequency for which 417Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 417Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$417\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 417\text{Hz} / n$$

Now we need to find the value of "n" for which 417Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 208.5\text{Hz} \quad n = 3, f = 139\text{Hz} \quad n = 4, f = 104.25\text{Hz} \quad n = 5, f = 83.4\text{Hz} \quad n = 6, f = 69.5\text{Hz}$$

We can see that none of these frequencies is exactly equal to 417Hz. Therefore, it is unlikely that 417Hz is a harmonic of a simple fundamental frequency. However, it is possible that 417Hz is a harmonic of a more complex waveform with multiple frequencies.



Q: same for 528 Hz

To calculate the fundamental frequency for which 528Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 528Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$528\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 528\text{Hz} / n$$

Now we need to find the value of "n" for which 528Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 264\text{Hz} \quad n = 3, f = 176\text{Hz} \quad n = 4, f = 132\text{Hz} \quad n = 5, f = 105.6\text{Hz} \quad n = 6, f = 88\text{Hz}$$

We can see that the frequency of 528Hz is exactly two times the frequency of 264Hz, which means that 528Hz is the second harmonic of 264Hz. Therefore, the fundamental frequency for which 528Hz is a harmonic is 264Hz.



Q: same for 639Hz

To calculate the fundamental frequency for which 639Hz is a harmonic, we can use the same formula:

$$\text{Fundamental frequency} = \text{harmonic number} \times \text{frequency}$$

If 639Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$639\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 639\text{Hz} / n$$

Now we need to find the value of "n" for which 639Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 319.5\text{Hz} \quad n = 3, f = 213\text{Hz} \quad n = 4, f = 159.75\text{Hz} \quad n = 5, f = 127.8\text{Hz} \quad n = 6, f = 106.5\text{Hz}$$

We can see that none of these frequencies is exactly equal to 639Hz. Therefore, it is unlikely that 639Hz is a harmonic of a simple fundamental frequency. However, it is possible that 639Hz is a harmonic of a more complex waveform with multiple frequencies.



Q: same for 741 Hz

To calculate the fundamental frequency for which 741Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 741Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$741\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 741\text{Hz} / n$$

Now we need to find the value of "n" for which 741Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 370.5\text{Hz} \quad n = 3, f = 247\text{Hz} \quad n = 4, f = 185.25\text{Hz} \quad n = 5, f = 148.2\text{Hz} \quad n = 6, f = 123.5\text{Hz}$$

We can see that none of these frequencies is exactly equal to 741Hz. Therefore, it is unlikely that 741Hz is a harmonic of a simple fundamental frequency. However, it is possible that 741Hz is a harmonic of a more complex waveform with multiple frequencies.



Q: same for 852Hz

To calculate the fundamental frequency for which 852Hz is a harmonic, we can use the same formula:

Fundamental frequency = harmonic number x frequency

If 852Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$852\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 852\text{Hz} / n$$

Now we need to find the value of "n" for which 852Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 426\text{Hz} \quad n = 3, f = 284\text{Hz} \quad n = 4, f = 213\text{Hz} \quad n = 5, f = 170.4\text{Hz} \quad n = 6, f = 142\text{Hz}$$

We can see that none of these frequencies is exactly equal to 852Hz. Therefore, it is unlikely that 852Hz is a harmonic of a simple fundamental frequency. However, it is possible that 852Hz is a harmonic of a more complex waveform with multiple frequencies.



Q: same for 963Hz

To calculate the fundamental frequency for which 963Hz is a harmonic, we can use the same formula:

$$\text{Fundamental frequency} = \text{harmonic number} \times \text{frequency}$$

If 963Hz is a harmonic, it means that it is a multiple of some fundamental frequency. We can write this as:

$$963\text{Hz} = n \times f$$

where "n" is the harmonic number and "f" is the fundamental frequency.

To find the fundamental frequency, we need to solve for "f". We can do this by dividing both sides of the equation by "n":

$$f = 963\text{Hz} / n$$

Now we need to find the value of "n" for which 963Hz is a harmonic. Here are some possible values of "n" and the resulting fundamental frequency:

$$n = 2, f = 481.5\text{Hz} \quad n = 3, f = 321\text{Hz} \quad n = 4, f = 240.75\text{Hz} \quad n = 5, f = 192.6\text{Hz} \quad n = 6, f = 160.5\text{Hz}$$

We can see that none of these frequencies is exactly equal to 963Hz. Therefore, it is unlikely that 963Hz is a harmonic of a simple fundamental frequency. However, it is possible that 963Hz is a harmonic of a more complex waveform with multiple frequencies.

Q: why do you say "harmonic of a more complex waveform with multiple frequencies?"

I use the phrase "more complex waveform with multiple frequencies" to refer to a sound wave that is composed of multiple frequencies, rather than a simple sine wave that has only one frequency.

In many cases, the sounds we hear in the real world are not simple sine waves, but are rather complex waveforms made up of many different frequencies combined together. These complex waveforms can be broken down into their constituent frequencies using a mathematical technique called Fourier analysis.

When we say that a frequency like 741Hz or 852Hz is a harmonic of a more complex waveform, we mean that it is one of the frequencies that makes up the waveform. The waveform could be composed of many different frequencies, and the frequency in question could be just one of them.

In the context of the solfeggio frequencies, some people believe that these frequencies are special because they are related to ancient musical scales or have healing properties. However, there is no scientific evidence to support these claims. While the solfeggio frequencies may have interesting mathematical relationships to each other, they are not necessarily related to any particular fundamental frequency or complex waveform.