

# Intervals 4

## Music Fundamentals

14-119-T

At this point in the course, we have thoroughly examined relationships between two pitches within the octave. For this lecture, we will examine compound intervals and briefly review previous lectures on intervals.

### Compound Intervals:

Simply, *compound intervals* are intervals that exceed the octave [see figure 1]. There are two ways of describing the interval. One way is to simply say the interval plus an octave. Generally, this is sufficient; however, at times it may be more appropriate to describe the actual interval.

Labeling the compound interval is actually very simple. I prefer to start with the analyzing the interval by thinking the interval plus an octave. For example, if we are presented with the pitches in figure 1 (E4 and G5), we know that E4 to G4 is a minor 3<sup>rd</sup>. By simply adding seven to the number of the interval, we find that the interval is a minor 10<sup>th</sup>. This is because there are seven interval divisions of the octave [see figure 2].

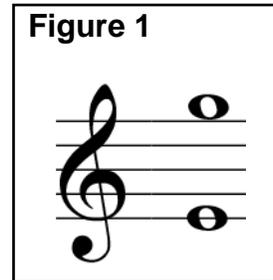


Figure 1

### Figure 2

#### Seven divisions of the octave

- 1) 2<sup>nds</sup>
- 2) 3<sup>rds</sup>
- 3) 4<sup>ths</sup>
- 4) 5<sup>ths</sup>
- 5) 6<sup>ths</sup>
- 6) 7<sup>ths</sup>
- 7) octave

Therefore, by adding seven to the interval number, we can find the actual compound interval.

Another way, yet more taxing, is to simply count the number of 1/2 steps just as we have done before when finding simple intervals (intervals within the octave). In figure 1, we know that E4 to E5 is the octave, and an octave has twelve 1/2 steps. E5 up to G5 is three 1/2 steps (or a minor 3<sup>rd</sup>). Since the octave (8v) is 12 1/2 steps, a minor 9<sup>th</sup> is 13 1/2 steps, and major 9<sup>th</sup> is 14 1/2 steps., etc. [see figure 3]

### Figure 3

#### Intervals up to 2 octaves

Simple		Compound (interval + octave)	
Name	# 1/2 steps	Name	# 1/2 steps
m2	1	m9	13
M2	2	M9	14
m3	3	m10	15
M3	4	M10	16
P4	5	P11	17
Tt (tritone)	6	Double tt	18
P5	7	P12	19
m6	8	m13	20
M6	9	M13	21
m7	10	m14	22
M7	11	M14	23
8v	12	Double 8v (15m)	24

From figure 3, you may notice that the difference between the number of 1/2 steps between the compound interval and the simple interval is 12. For example, the difference in the number of 1/2 steps between a M3 and M10 is 12 ( $16-4=12$ ). Again, this is because there are 12 1/2 steps in the octave, and compound intervals are simply simple intervals plus an octave.

### **Review:**

An interval is the space or distance between two pitches, or in other words, the relationship between two pitches. Being able to recognize intervals at sight will become increasingly important to your study of music. In Western music, the concept of harmony is the result of the pitches interacting with one another. You should become fluent in identifying intervals at sight, and continue to develop your proficiency.

In our musical system, the interval of an octave is divided into twelve equal 1/2 steps. If you are confused at all about the octave, please review **notation2.pdf**. In other words, the smallest distance between two pitches in traditional western music is a 1/2 step. The piano is a great tool for finding the distance between notes since every adjacent key represents a 1/2 step (**notation3.pdf**). For example, **C** to **C#** is a 1/2 step, and **E** to **F** is a 1/2 step, etc (note there is not a black key between **E** and **F** or between **B** and **C**).

Simple intervals are intervals within the span of an octave. Intervals that span more than an octave are called compound intervals. To recognize simple intervals, simply count the number of 1/2 steps between the pitches (**intervals1.pdf**). For compound intervals, there are a couple of methods for communicating the interval (see above).