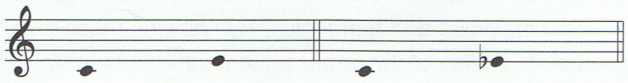
Interval Quality

Some intervals contain the same number of scale tones, yet still look and sound different.

Fig. 1



Although both intervals above contain three scale tones, the exact distance from C to E is different than that from C to E♭. Interval quantity gives us a general measurement of the size of the interval. The exact measurement is called the *interval quality*, which is the number of half steps the interval contains. Quality can be measured in comparison to the major scale.

How To Name Interval Quality

type.

1. Determine the quantity by counting the scale tones.

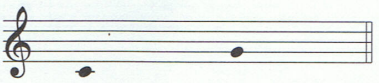
2. If the upper note of the interval belongs to the major scale of the lower note, name it as follows:

major second

major third

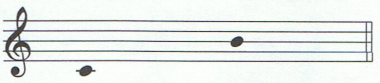
perfect fourth

perfect fifth



major sixth

major seventh



perfect octave

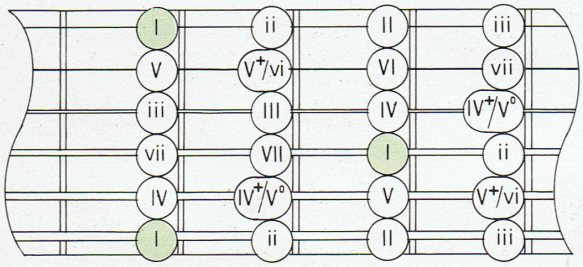
Fingerboard intervals

Intervals are the building blocks of all chords. If you are to understand the role of intervals in harmony and chord construction, you must learn to identify their sound by ear. They are set out in the large chart below, together with the names by which they are known.

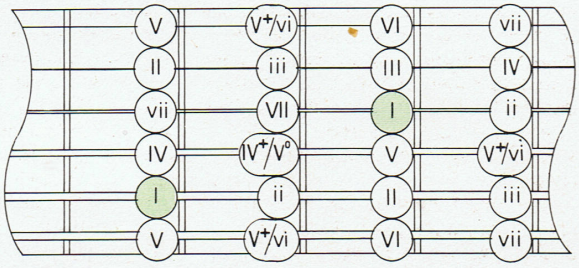
The characteristic sound of each interval is always the same, whatever the two notes involved. So a minor third from C to E♭, for example, has the same sound quality as a minor third from D to F. A pattern of intervals can be plotted out on the guitar fingerboard. The pattern remains consistent wherever it is played. Any note can be considered as the tonic or root, and all the other intervals will then relate to this note. When playing in a specific key, the name of the key is the name of the tonic or root note.

Let's take an example. If you play the first pattern (below left) with your 1st finger on the 3rd fret of the 6th string, this identifies the tonic or root note as a G. All the other intervals then relate to G. If you start on the 5th fret, the tonic or root note will be an A. These patterns are invaluable for working out scale and chord fingerings.

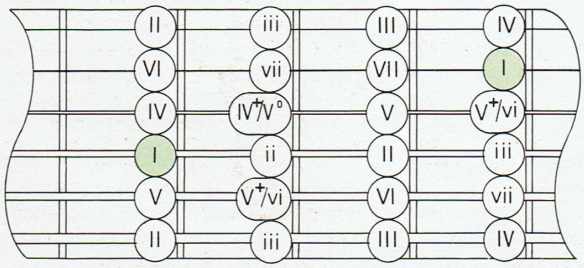
Roman numerals are used to symbolize intervals in the same way as they are for chords (see p. 76). The only difference is that upper-case numerals are used specifically for major and perfect intervals, lower-case numerals are introduced for minor intervals, a plus sign means an augmented interval, and a small circle indicates a diminished interval.



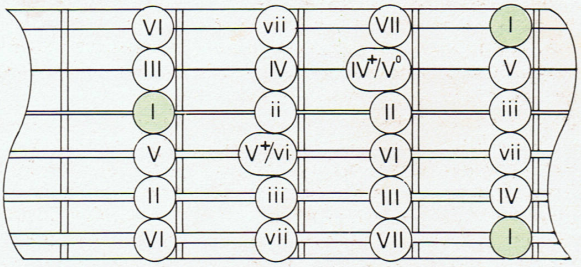
Root note (1st finger) anywhere on 6th string



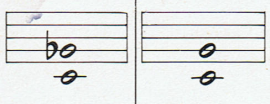
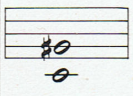
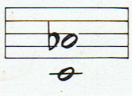
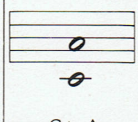
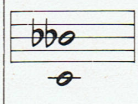
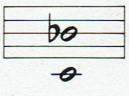
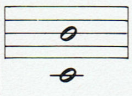
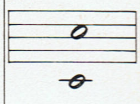
Root note (1st finger) anywhere on 5th string



Root note (1st finger) anywhere on 4th string



Root note (1st finger) anywhere on 3rd string

Enharmonic		Enharmonic		Enharmonic				
V° (♭5th)	V (5th)	V+ (♯5th)	vi (♭6th)	VI (6th)	vii° (♭♭7th)	vii (♭7th)	VII (7th)	I (1st)
Tritone	Dominant	Sub-mediant				Sub-tonic	Leading note	Tonic
G♭	G	G♯	A♭	A	B♭♭	B♭	B	C
								
C to G♭	C to G	C to G♯	C to A♭	C to A	C to B♭♭	C to B♭	C to B	C to C
6 semi-tones	7 semi-tones	8 semi-tones		9 semi-tones		10 semi-tones	11 semi-tones	12 semi-tones
Diminished fifth	Perfect fifth	Augmented fifth	Minor sixth	Major sixth	Diminished seventh	Minor seventh	Major seventh	Octave (8va)
restless	Open consonance	Soft consonance		Soft consonance.		Mild dissonance	Sharp dissonance	Open consonance

3. If the upper note does not belong to the major scale of the lower note, name it as follows:

- If it is one half step smaller than a major interval, it is called *minor.*
- If it is one half step smaller than a perfect or minor interval, it is called *diminished.*
- If it is one half step larger than a perfect or major interval, it is called *augmented.*

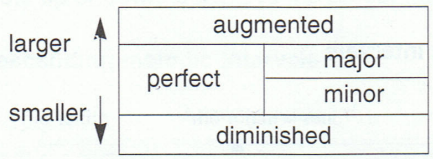
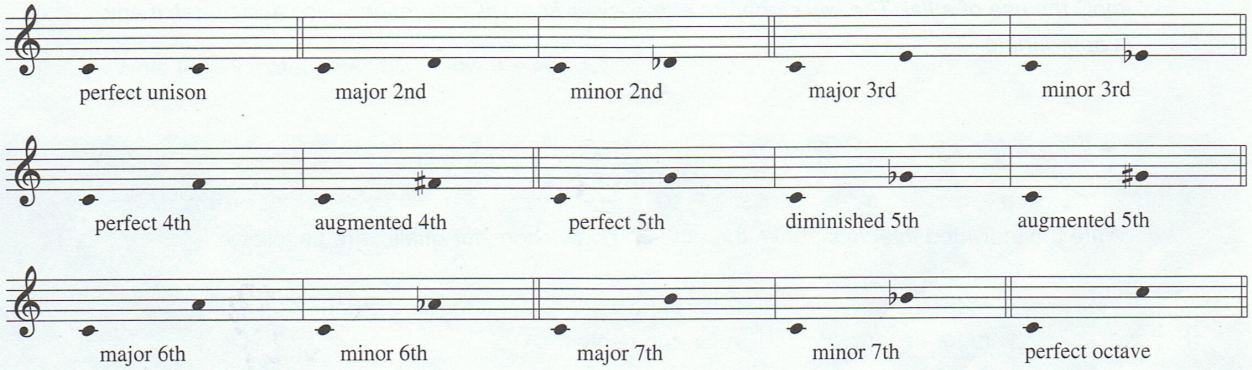
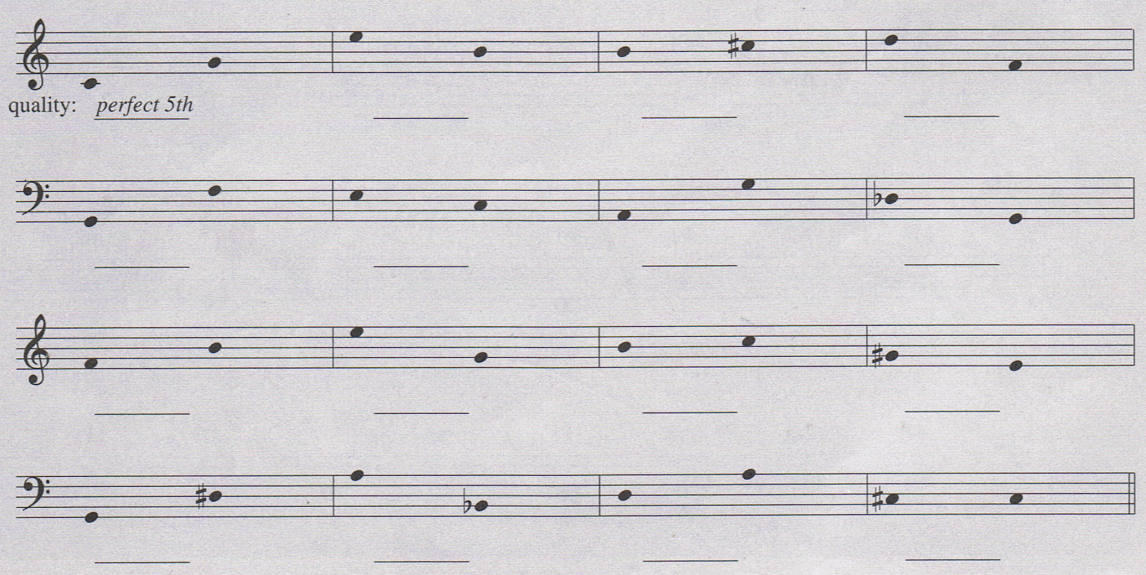


Fig. 2: interval qualities



EXERCISE 2

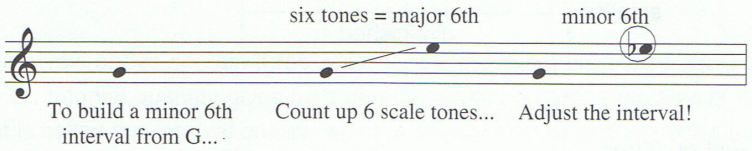
Name the quality of each of the following intervals. Watch the clef!



Building Intervals

To build a melodic interval going up, think of the given note as "1," and count the number of major scale tones indicated by the quantity. If the given interval is perfect or major, the process is complete. If not, adjust the major scale interval up or down to match the desired quality.

Fig. 3: building ascending melodic intervals

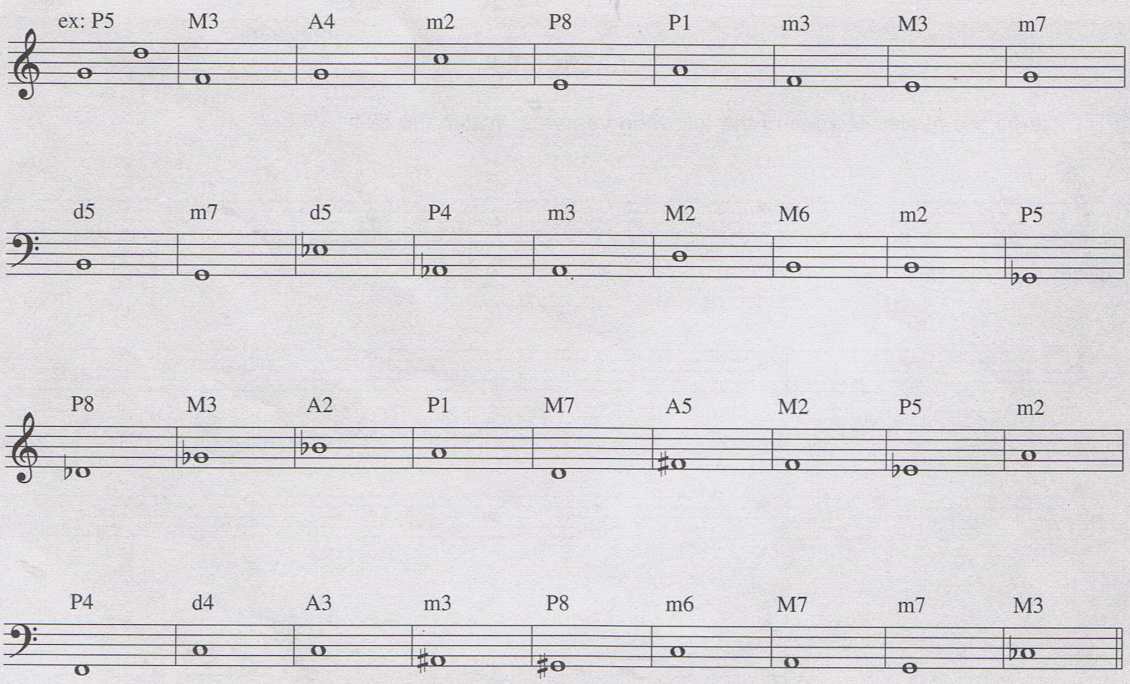


NOTE: Raising a note does not always imply the use of a sharp, nor does lowering note always imply the use of a flat. The key signature of the lower note will determine which accidental, if any, is appropriate.

EXERCISE 3

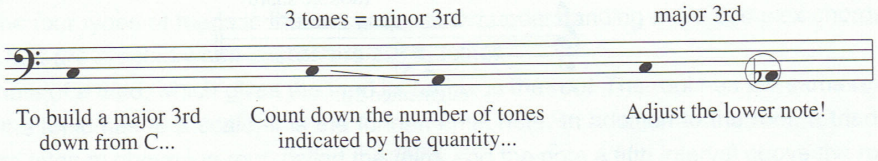
Write the indicated intervals above the notes. Abbreviations for quality are as follows:

M for major P for perfect d for diminished
m for minor A for augmented



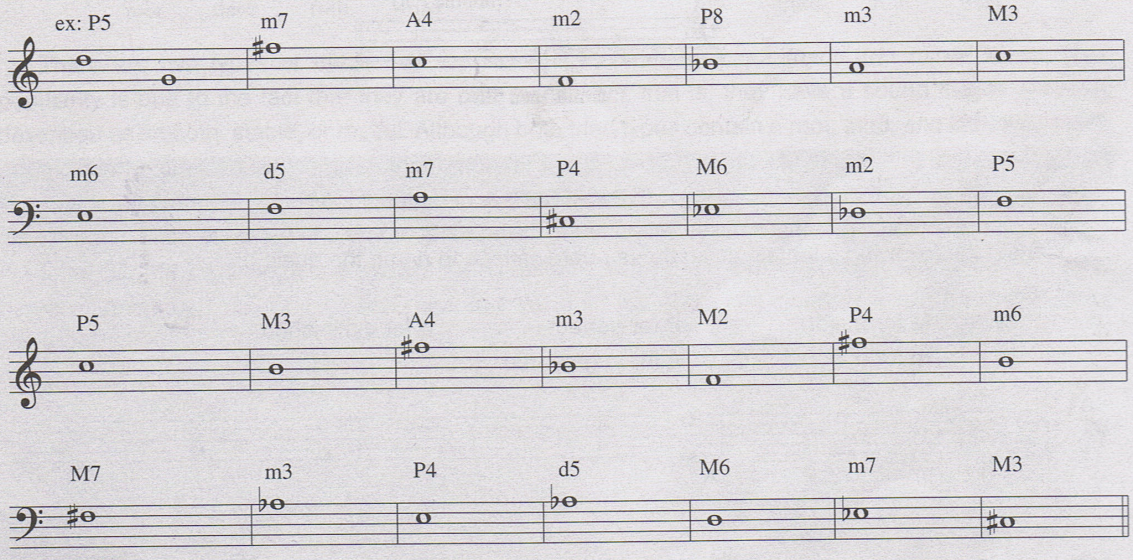
To build descending melodic intervals, the bottom note must be raised or lowered to achieve the desired quality. Starting with the given note, count down the number of letter names indicated by the quantity. Now measure the distance from the lower note back to the upper. If the upper note belongs to the major scale of the lower note and the desired interval is perfect or major, the process is complete. If not, adjust the lower note up or down to achieve the proper quality.

Fig. 4: building descending melodic intervals



EXERCISE 4

Write the indicated intervals below the notes.



If two notes are played simultaneously, they form a *harmonic interval*. The quantity and quality of harmonic intervals is counted in exactly the same way as that of melodic intervals.

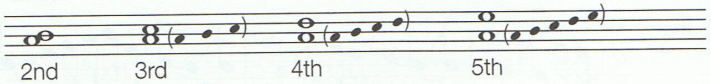
Fig. 5: melodic and harmonic intervals

Intervals

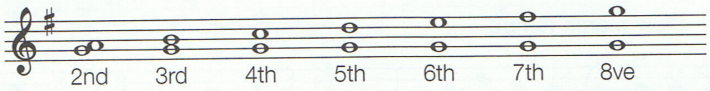
(The AB Guide to Music Theory, Chapter 7/1)

When you play two different notes – one higher note and one lower note – the distance in pitch between them is called an **interval**.
If you play one note first and then another note after it, it is called a **melodic** interval.
If you play the two notes together at the same time, it is called a **harmonic** interval.

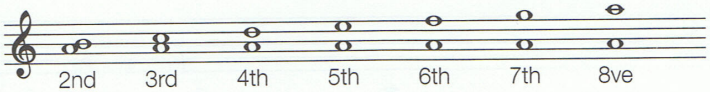
You can measure the size of an interval by counting the number of degrees of the scale that it includes, like this:



The number of degrees is the *number* of the interval. In Grade 2 all the intervals will have the key-note as the lower note. Therefore, the number of the interval will always be the same as the degree of the scale on which the top note is placed. For example, here are the intervals from the key-note in G major:

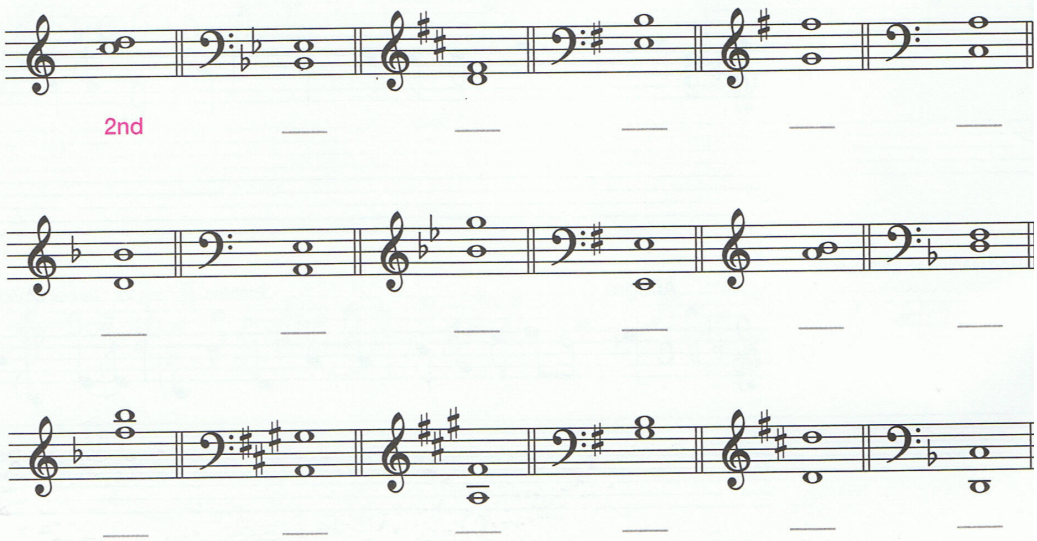


Here are the intervals from the key-note in A minor:



(In A minor, of course, both the F and the G might be sharpened, depending on which form of the scale is being used; but this does not affect the *number* of the interval.)

Exercise 1 ☑ **Give the number of each of these harmonic intervals. The lower note is the key-note. (The first answer is given as an example.)**

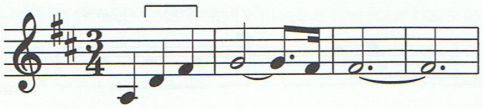


Intervals are always counted from the lower note – even if, in a melodic interval, the higher note comes first. These are both intervals of a 6th:

Exercise 2 ☑ **Write the number of each of the intervals marked**

Example

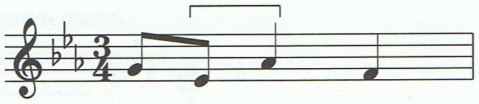
Tchaikovsky, *Nutcracker Suite* (Waltz)



3rd

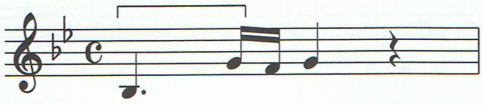
Elgar, *'Enigma' Variations* ('Nimrod')

(a)



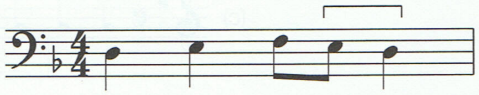
Handel, Concerto Grosso, Op. 6 No. 7

(b)



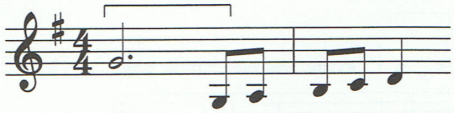
Mahler, Symphony No. 1 (3rd mvt)

(c)



Wagner, *The Mastersingers* (Act III Prelude)

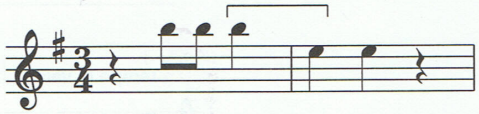
(d)



etc.

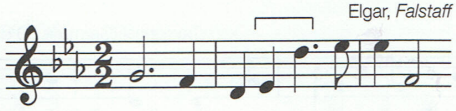
Dvořák, 'New World' Symphony (3rd mvt)

(e)



Elgar, *Falstaff*

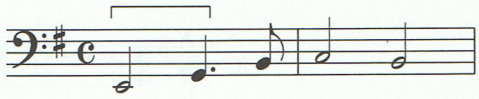
(f)



etc.

Brahms, Cello Sonata, Op. 38 (1st mvt)

(g)

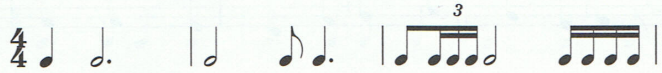


Composing simple four-bar rhythms

In Grade 1, you added two bars to a two-bar rhythm. In Grade 2 you will need to do a bit more:

- you will be given only the first bar, or part of the bar,
- the opening will start on the first beat of the bar and you will continue it to make a four-bar rhythm.

Try to write a rhythm with some shape or design. Do not just fill up four bars with enough notes to fit in with the time signature. This, for example, is musically shapeless:



But a line of repeated notes, like this, is dull:

Intervals

The difference in pitch between any two notes is called an *interval*. The interval is the same whether the notes are sounded together or one after the other.

Every different interval has its own specific sound quality. This is determined by the ratio between the frequencies of the two notes. We have seen how each note produces a harmonic series, made up of its fundamental plus a kind of "sound spectrum" of overtones or upper partials. Sounding two notes together therefore has the effect of combining two fundamentals and their two harmonic spectrums. The result is the creation of a third harmonic series – and it is this that is responsible for the specific sound of any interval.

In the case of two notes with the same pitch, the two harmonic series are doubled – this is called a *unison*. In the case of two notes an octave apart, the two harmonic series reinforce one another – this is the *octave*.

How intervals are named

Intervals can be identified by their position in the diatonic scale. The most fundamental of all intervals is, of course, the octave; it determines the first and last notes. All other intervals are then named according to their distance from the first note of the scale (the "tonic" or "root" note). They are called *seconds, thirds, fourths, fifths, sixths* and *sevenths*.

This system covers the eight notes (including the octave) that make up the diatonic major scale. However, as we have seen, the octave is divided into twelve semi-tones, producing thirteen different notes (including the octave). Since each of these has its own sound characteristic, there is a system of names which further defines each interval as being *perfect, major, minor, augmented* or *diminished*.

Of the diatonic intervals, the term "perfect" applies to the unison, the fourth, the fifth and the octave. The second, third, sixth and seventh intervals may be either "major" or "minor". The interval between the fourth and fifth is called the "tritone".

Because of enharmonic spellings, the same physical interval can have more than one name, so the tritone is called either an augmented fourth or a diminished fifth.

Here are the rules for identifying intervals.

- A major interval lowered by a semi-tone becomes a minor interval.
- A minor interval raised by a semi-tone becomes a major interval.
- A major interval raised by a semi-tone becomes an augmented interval.
- A minor interval lowered by a semi-tone becomes a diminished interval.
- A perfect interval raised by a semi-tone becomes an augmented interval.
- A perfect interval lowered by a semi-tone becomes a diminished interval.

Compound intervals

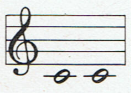
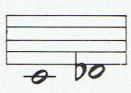
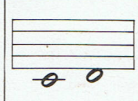
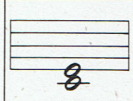
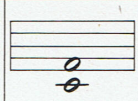
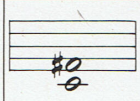
When the notes extend beyond the range of one octave, the diatonic scale numbering system simply continues.

- When the second is an octave higher, it is called a *ninth*. It is major naturally, minor if lowered, and augmented if raised.
- When the third is an octave higher, it is called a *tenth*. It can be major or minor.
- When the fourth is an octave higher, it is called an *eleventh*. It can be perfect, augmented or diminished.
- When the sixth is an octave higher, it is called a *thirteenth*. It can be major, minor or augmented.

Consonance and dissonance

The different sound quality possessed by each interval can be defined by using the terms *consonant* and *dissonant*. The reason for this is that some intervals seem to have a smooth, satisfying sound. These are the unison, the thirds, the fifth, the sixth and the octave. They are called either "open" or "soft" consonances. Others have an unsatisfying, "un-resolved" sound. These are the second and the seventh. They are called either "sharp" or "mild" dissonances. The fourth can be either consonant or dissonant. The tritone has an ambiguous quality which is considered neutral or restless on its own, but dissonant in a diatonic context.

Interval chart

							Enharmonic
Numerical symbol	I (1st)	ii (♭2nd)	II (2nd)	iii (♭3rd)	III (3rd)	IV (4th)	IV+ (♯4th)
Degree	Tonic	Supertonic		Mediant		Sub-dominant	Tritone
Pitch in key of C	C	D♭	D	E♭	E	F	F♯
Intervals from C	 C to C	 C to D♭	 C to D	 C to E♭	 C to E	 C to F	 C to F♯
Distance of interval	Zero	1 semi-tone	2 semi-tones	3 semi-tones	4 semi-tones	5 semi-tones	6 semi-tones
Name of interval	Unison	Minor second	Major second	Minor third	Major third	Perfect fourth	Augmented fourth
Sound characteristic	Open consonance	Sharp dissonance	Mild dissonance	Soft consonance	Soft consonance	Consonance or dissonance	Neutral or