Harmony and Tonality 2

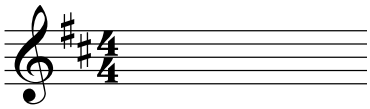
Key Signatures

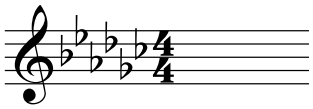
Last time, we saw how most of our music was made up from sets of seven notes called keys. We learned how to work out the notes in major or minor keys using tone-semitone patterns (go and revise this now if you need to).

Most of the keys we use will contain sharp (♯)or flat (♭) notes. The set of black notes contained within a key is called its **key signature**.

A key can not contain both flat and sharp notes.

Most pieces of music will show the key signature at the beginning so that performers know which notes are sharp/flat in the piece they are playing. If we learn to recognise each of the key signatures, we can immediately tell what key a piece is just by looking at it. Examples of two different **key signatures** are shown below.





The Circle of Fifths

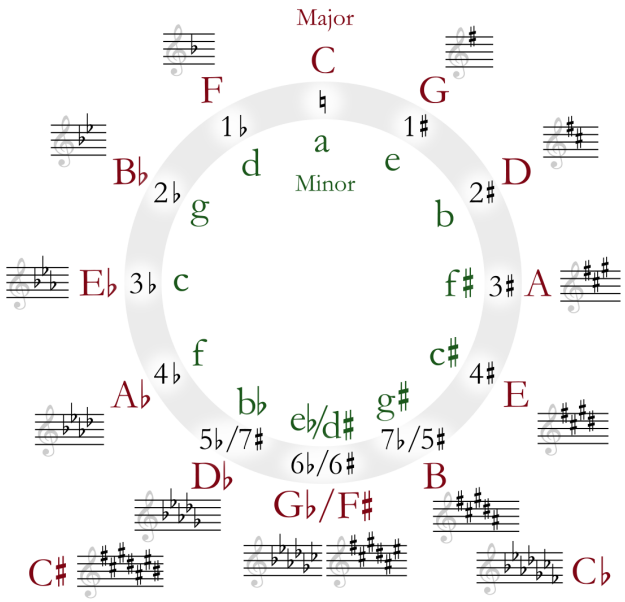
There are other, quicker ways of working out the key signatures than just using the tone-semitone patterns. The main one is called **The Circle of Fifths.**

In the **Circle of Fifths**, we move through a sequence of major keys, working out the key signature of each. We start on C Major, which we know has **no sharps of flats.** To move through the circle of fifths, we **go to the fifth of the key we are on and sharpen the seventh of the key we are going to**.

We have started on C Major, so the key we are going to (up one fifth from C) is G Major. We sharpen the seventh note of the key were are going to (the seventh of G is F) and so we now know that the key of G Major contains one sharp, and that it is F♯.

We can keep going through the **Circle of Fifths** to work out the key signatures of more major keys. If we start on G Major (with its one sharp (F♯), we can go up another fifth and get to D. We sharpen the seventh of D (which is C) and we add this to our key signature, so D will have two sharps (F♯ and C♯).

We can continue through the **Circle of Fifths** to see that A Major will have three sharps, E Major will have four, B Major will have five and F♯ Major will have six. At this point it makes more sense to start spelling our key signatures using flats (♭) instead of sharps (remember we only have twelve notes to begin with. A system where we have to modify more than half of them would be difficult to read and use. If you ***really*** want to understand why this is the case, try to work out all of the major keys using only sharps).



This is why some keys use sharps and some use flats. We use whichever will require the fewest symbols in the key signature to make it work.

Once we pass this halfway point and begin to use flats instead of sharps, we start taking away symbols instead of adding them (we take away the flat that would be the seventh of the key we are going to). This means that by the time we get back to C Major, we have no sharps or flats again.

Sometimes it makes more sense to travel backwards through the circle (for instance, if you had a piece of music with three flats, it would be quicker to go back three steps instead of forwards nine). For this reason, some people talk about the circle of fourths. This is essentially just moving backwards through the circle of fifths.

Finally: because every major key has a relative minor (and vice-versa) the Circle of Fifths also contains within it every minor key.

Chords and Triads

In music, a chord is any time you have more than one note playing at the same time. **Triads** are chords that contain three notes and that are built in a certain way.

A triad consists of three notes. They are made of the **root note** (which is the main note of the chord: in a C Major chord the root is C, in an F Minor chord the root is an F etc.).

As well as the root note, we also use the **fifth** (whichever note is one fifth above our root).

In between these two notes we add a **third.** We found out previously that there are two different types of thirds: major and minor. Whichever one we use will determine whether the chord we make is major or minor.

For instance, to build an E Major chord, we start off with our **root** (E), and we add a **fifth** above it (a fifth above E is B). Then we add a **major third** (G♯).

E Major Chord			
Interval	Root	Third	Fifth
Note	E	G♯	B

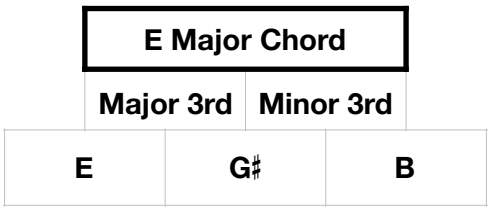
For an F Minor chord:

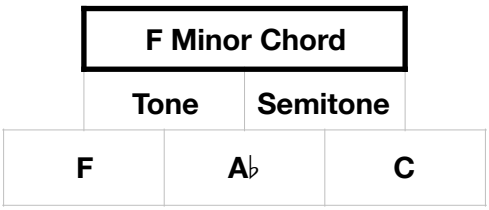
F Minor Chord			
Interval	Root	Third	Fifth
Note	F	A♭	C

Stacking Thirds

Another way of understanding this is to think of it as **stacking thirds.** This makes sense because as well as the interval between the root and the middle notes being a third, (A & C♯, and F & A♭ in the examples above) the interval between the middle and top notes is also a third (between C♯ & E, and A♭ & C). So we can think of a triad as a root note with a third stacked on top of it, then another third stacked on top of that again. If we use this model a major triad consists of a major third with a minor third on top of it. A minor triad consists of a minor third with a major third on top of it.

Some people find this model of understanding triads confusing but it makes more sense and is easier to see if you use a piano or guitar to play the triads.





This model of understanding will become more useful when we start thinking about bigger chords that contain more than three notes.