MUSIC THEORY

INSTRUCTOR'S GUIDE

LEVEL 6

MUSIC AND ARTS MINISTRIES
CANADA AND BERMUDA

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Produced by The Salvation Army

Music and Arts Ministries

3rd Edition

Canada and Bermuda Territory

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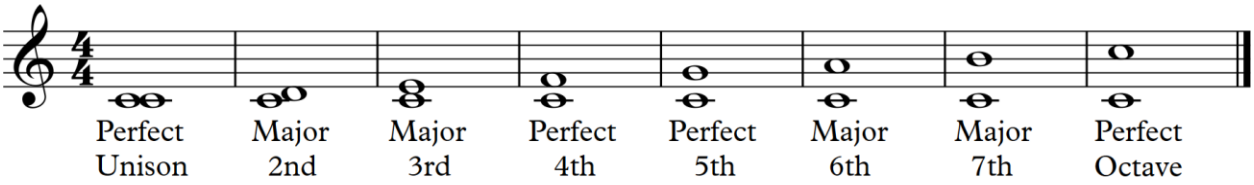
Review of Level 5

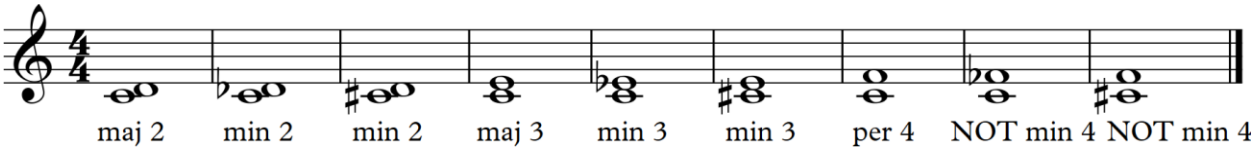
Enharmonically Equivalent is a term used to describe notes that are the same pitch but have different letter names.
A **chromatic scale** can be built on any note with the space of a semitone between each of the notes.

An **interval** is the *distance* between two notes. It always includes the first note and the last note given.
Harmonic intervals – two notes happen at the same time.
Melodic intervals – two notes happen one after the other.

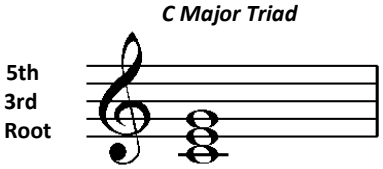
Intervals based on the major scale are either **major** or **perfect**. See the diagram below!



A **minor** interval is a major interval made a semitone smaller. See the diagram below!



A **triad** is a combination of three notes formed by stacking two intervals of a third on top of each other.



The **type** of triad is determined by the types of intervals above the root.

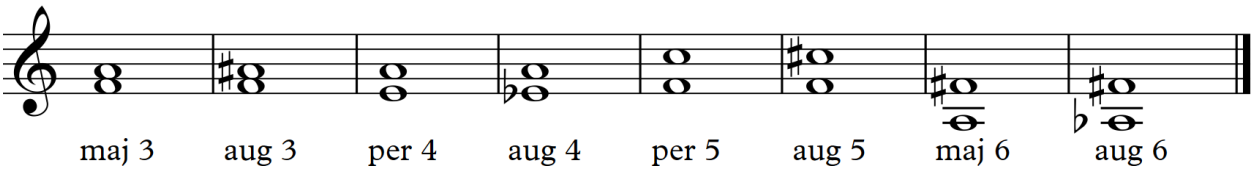
Major 3rd, Perfect 5th = **Major** triad
Minor 3rd, Perfect 5th = **Minor** triad

Lesson 6.1 – Augmented and Diminished Intervals

In previous levels, we have learned about major, minor and perfect intervals. Major and perfect intervals belong to the major scale, based on the bottom note. A minor interval is a major interval made a semitone smaller.

An **augmented** interval (represented by aug) is a *major* or *perfect* interval made larger by a semitone.

Study the below examples:



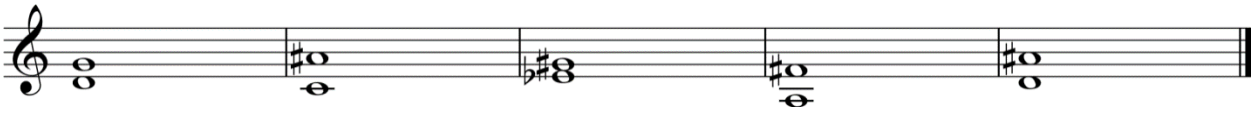
Note that some methods will use a capital **A** or an **X** sign to identify an augmented interval (i.e. A3, X3).

While either is correct to use when labelling intervals, this course will use the method demonstrated in the example above.

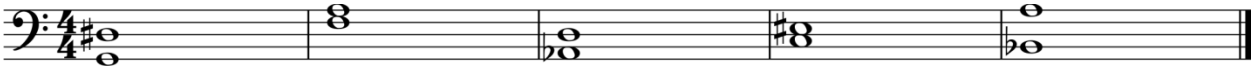
EXERCISE

Name the following intervals. The first one is done for you.

HINT: To begin, figure out what the upper note should be in the normal major scale. Then decide how the upper accidental affects the interval.



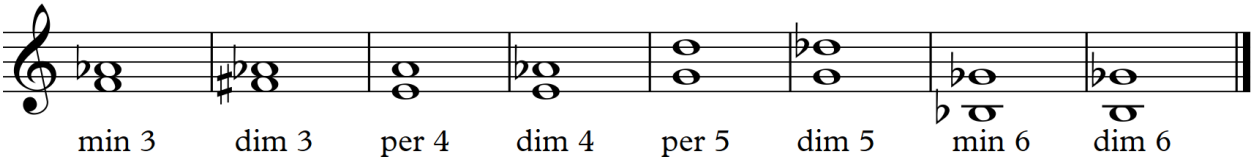
_per 4_____ _aug 6_____ _aug 3_____ _maj 6____ _aug 5_____



_aug 5____ _maj 3____ _aug 4_____ aug 3____ _maj 7_____

A **diminished** interval (represented by dim) is a *minor* or *perfect* interval made smaller by a semitone.

Study the below examples:

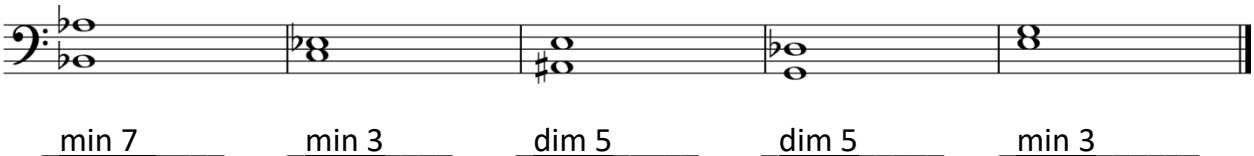


Note that some methods will use a capital **D** or an **o** sign to identify a diminished interval (i.e. D3, o3).

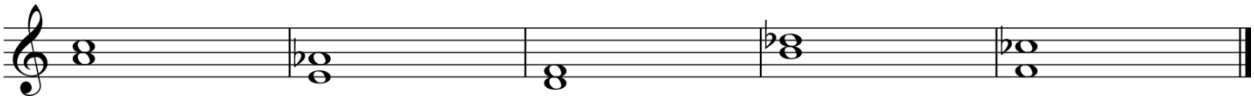
While either is correct to use when labelling intervals, this course will use the method demonstrated in the example above.

EXERCISE

Name the following intervals. The first one is done for you.



_min 7_____ _min 3_____ _dim 5_____ _dim 5_____ _min 3_____



_min 3___ _dim 4_____ _min 3____ _dim 3_____ _dim 5_____

Augmented ⟶ PERFECT ⟶ Diminished
(1, 4, 5, 8)

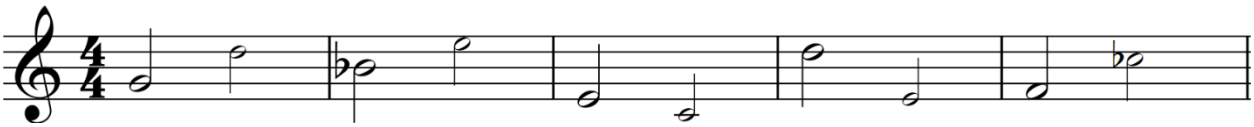
Augmented ⟶ MAJOR ⟶ Minor ⟶ Diminished
(2, 3, 6, 7)

A *perfect* interval made a semitone larger forms an *augmented* interval. A *perfect* interval made a semitone smaller forms a *diminished* interval.

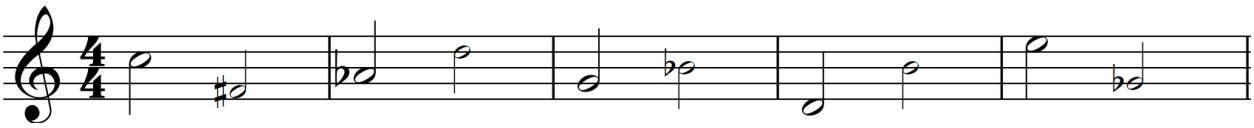
A *major* interval made a semitone larger forms an *augmented* interval. A *major* interval made a semitone smaller forms a *minor* interval. A *minor* interval made a semitone smaller forms a *diminished* interval.

EXERCISE

Write the following melodic intervals.



per 5 above aug 4 above maj 3 below min 7 below dim 5 above



dim 5 below aug 4 above min 3 above maj 6 above aug 6 below

NOTE: Another way to identify intervals is by counting semitones.

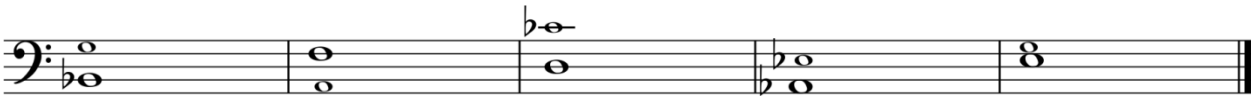
Interval	Semitones/ Half Steps
per 1 (unison)	0
min 2	1
maj 2	2
min 3	3
maj 3	4
per 4	5

Interval	Semitones/ Half Steps
per 5	7
min 6	8
maj 6	9
min 7	10
maj 7	11
per 8 (octave)	12

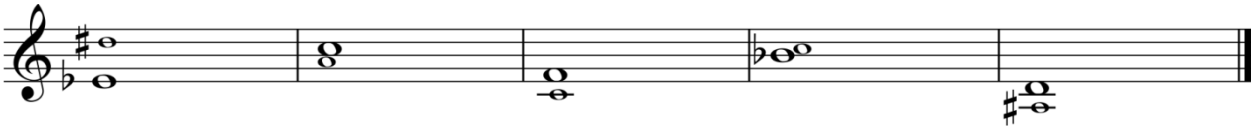
REMEMBER: When we add a semitone to a *major* or *perfect* interval, it becomes *augmented.* When we remove a semitone from a *minor* or *perfect* interval, it becomes *diminished.*

EXERCISE

Write the following harmonic intervals.



maj 6 above | min 6 below | dim 7 above | per 5 above | min 3 above



aug 7 above | min 3 below | per 4 below | maj 2 above | dim 4 below

SUMMARY

- ✓ When we classify **written** intervals, first we find the number, and then classify them as either **major (maj), minor (min), perfect (per), augmented (aug),** or **diminished (dim)**, based on their relation to the scale starting on the **bottom note**.

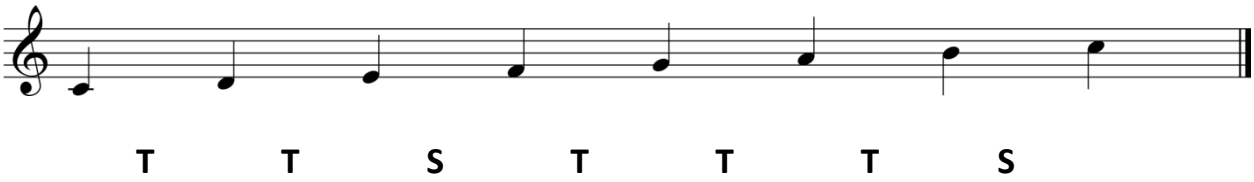
- ✓ **Augmented** intervals are major or perfect intervals made larger by a semitone.

- ✓ **Diminished** intervals are minor or perfect intervals made smaller by a semitone.

Lesson 6.2 - Minor Scales

All *major* scales have tones and semitones in the order **T T S T T T S**. A major scale starting on C has the following notes:

C major scale

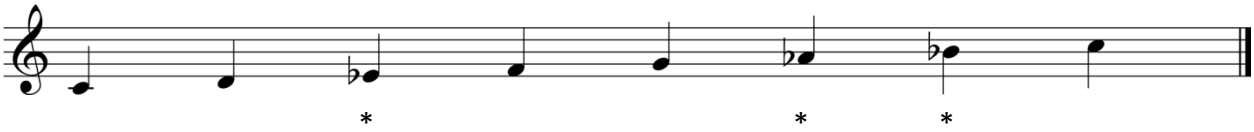


T T S T T T S

Natural Minor Scale

Another type of scale is the **minor** scale. The **natural minor** scale starting on C has some of the same notes as C major, but others are different:

C natural minor scale

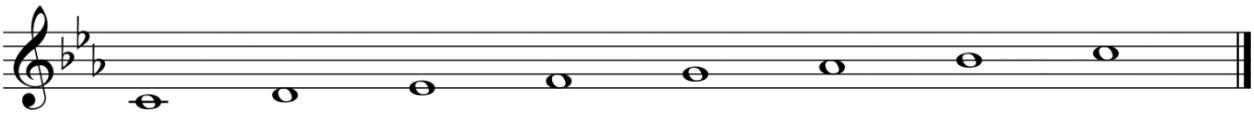


* * *

* Which notes are different? The 3rd, 6th , and 7th notes.

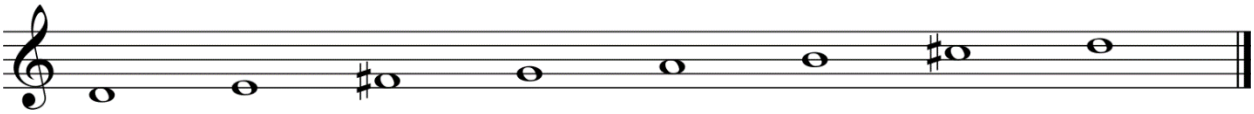
* How are they different? They are one semitone lower .

This means that the key of C minor has three flats (Bb, Eb, Ab), so we can also write the scale using a key signature:

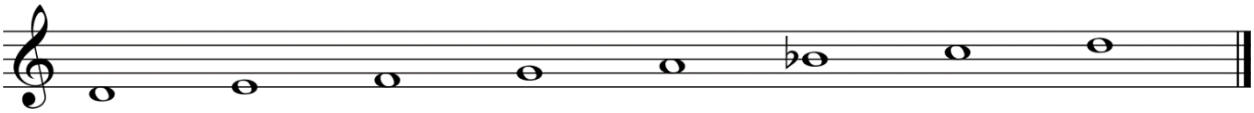


Here's another example of how to write a natural minor scale, this time starting on D.

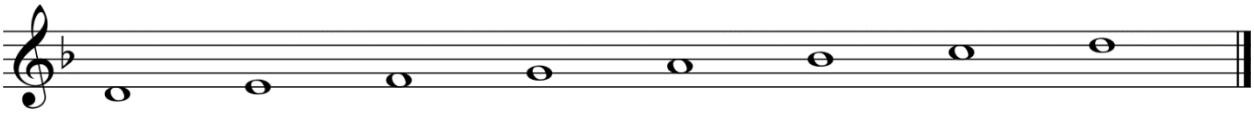
First, write the D major scale:



Now, lower the 3rd, 6th and 7th notes by one semitone:



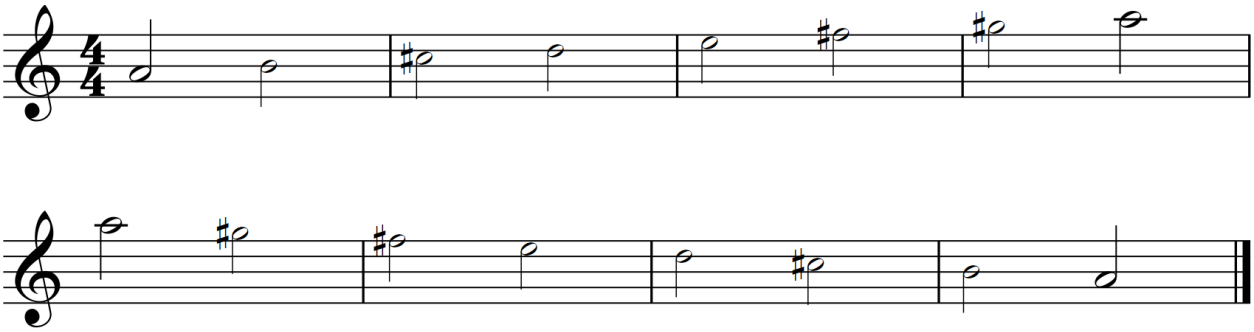
Finally, you can write the scale using a key signature:



EXERCISE

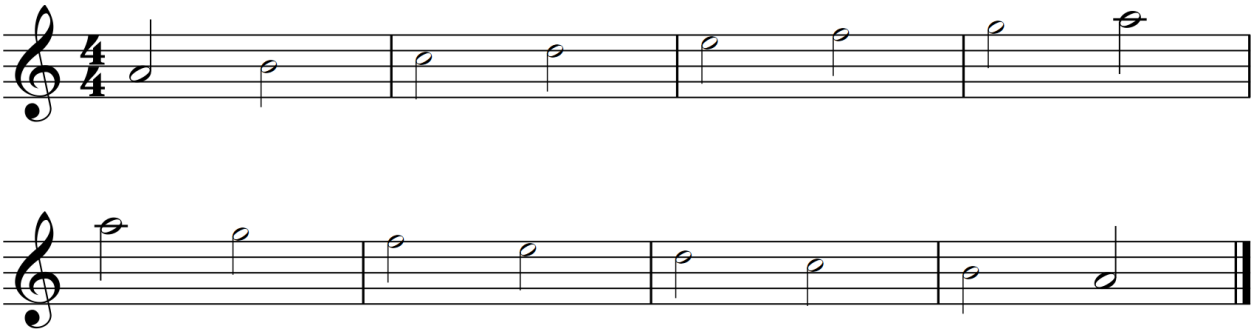
1. Write an A major scale in the Treble Clef, ascending and descending.
    - Use accidentals instead of a key signature.
    - Use half notes in 4/4 time.

A major



2. Now, write the A natural minor scale in the Treble Clef, ascending and descending. (Do you remember which notes have to be one semitone lower?)

A natural minor



Quick Review:

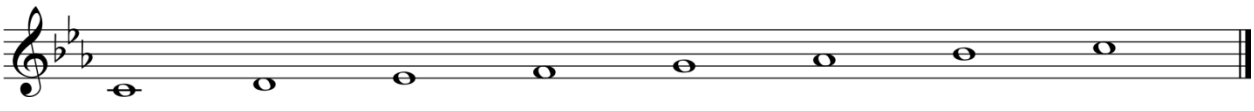
- The **natural minor scale** is formed by taking the 3rd, 6th and 7th notes of the major scale and lowering them by a semitone.
- For a given minor key, the relative major has the same key signature.

Relative Major/Minor

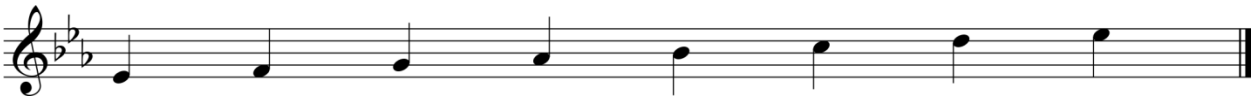
The first example we saw of the natural minor scale was C minor. Which *major* scale has the same key signature as C minor? _Eb major___

That's right! Eb major is called the **relative major** of C minor, and C minor is called the **relative minor** of Eb major.

C minor: three flats



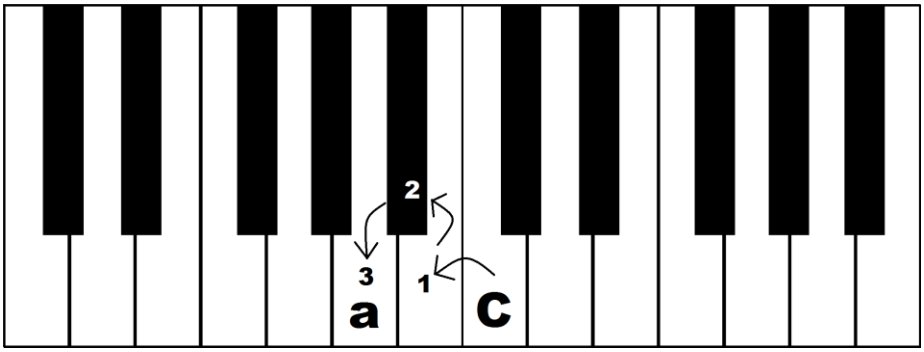
Eb major: three flats



The second example was D minor. Which major scale has the same key signature as D minor? _F major___

So that means __F____ major is the **relative major** of D minor.

To find the relative minor of a major key, move down 3 semitones.
For example, to find the relative minor key of C major, move down three semitones from C. We arrive at A! Therefore, the relative minor key of C major is A minor.



EXERCISE

1. Name the relative minor of the following major keys.

(a) Eb major __*C minor*____

(b) A major __*F# minor*____

(c) Bb major __*G minor*____

(d) Ab major __*F minor*____

(e) G major __*E minor*___

(f) E major _*C# minor*____

(g) F major __*D minor*___

(h) C major __*A minor*__

2. Name the relative major of the following minor keys. *(Hint: move up 3 semitones)*

(a) C# minor _*E major*____

(b) B minor __*D major*____

(c) F minor __*Ab major*____

(d) D minor __*F major*_____

(e) A minor __*C major*____

(f) E minor __*G major*____

(g) G minor __*Bb major*___

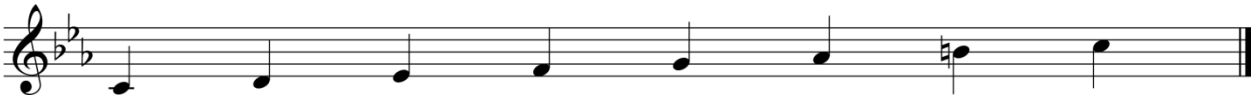
(h) F# minor __*A major*____

Harmonic Minor Scale

A second type of minor scale is the **harmonic minor scale**.

1. It is called *harmonic* because the harmonies (or chords) of the minor key are built using the notes of this scale.
2. *The notes of the harmonic minor scale are the same as the natural minor scale EXCEPT the seventh note: it is raised one semitone.*

C harmonic minor scale



If you are asked to write the harmonic minor scale, there are two ways to figure it out:

Method 1

- Write the major scale on the given starting note.
- Change it into the natural minor scale (by lowering the 3rd, 6th and 7th notes by one semitone).
- Make it harmonic minor (by raising the 7th note by one semitone).

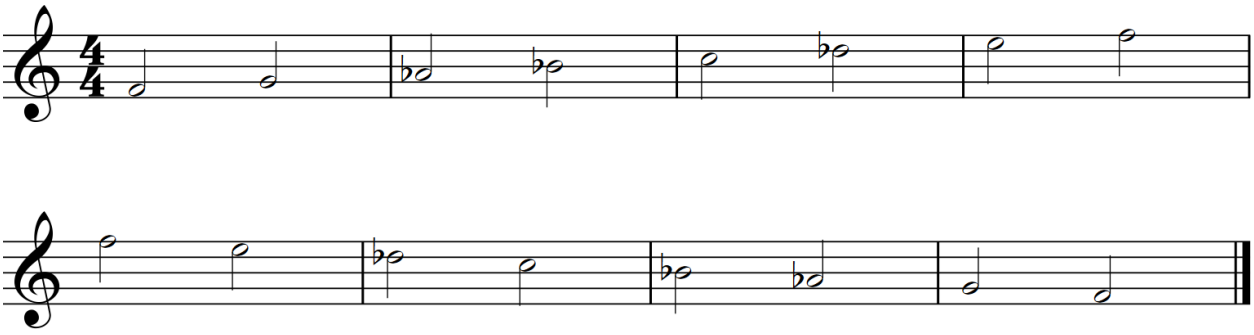
Method 2

- Figure out the key signature (same as relative major)
- Write the natural minor scale using the key signature.
- Make it harmonic minor (by raising the 7th note by one semitone).

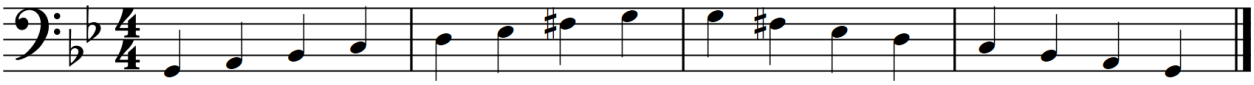
YOU SHOULD TRY BOTH METHODS AND THEN DECIDE WHICH YOU LIKE BEST!

EXERCISE

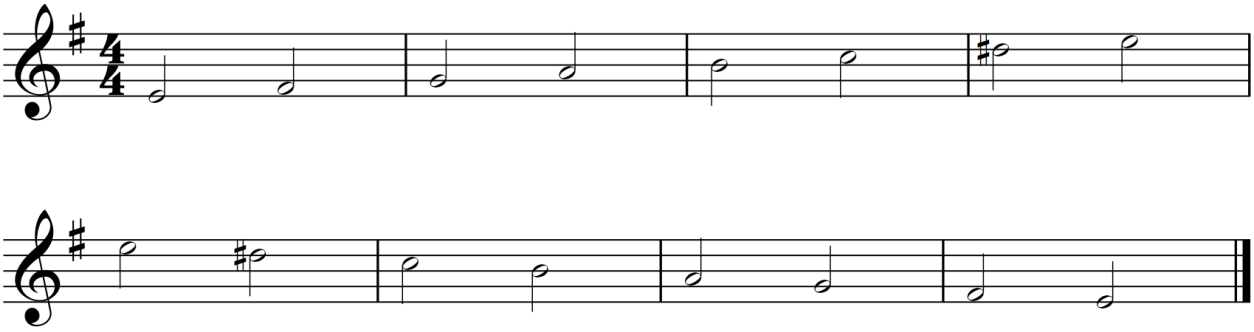
1. Write the F harmonic minor scale in the Treble Clef, ascending and descending, using half notes in 4/4 time. Use accidentals. Repeat the top note.



2. Write the G harmonic minor scale in the Bass Clef, ascending and descending, using quarter notes in 4/4 time. This time, use a key signature. Repeat the top note.



3. Write the E harmonic minor scale in the Treble Clef, ascending and descending, using half notes in 4/4 time. Use a key signature. Repeat the top note.

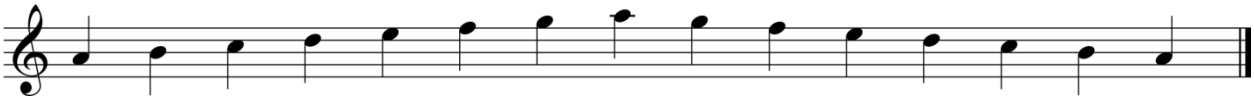


Melodic Minor Scale

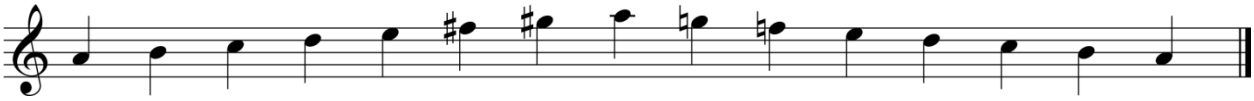
The final type of minor scale is the **melodic minor scale**.

- This form of the minor scale is usually used when writing melodies.
- The notes of the **d**escending scale are **d**ifferent!
- Ascending: the 6th and 7th notes are raised (one semitone higher than the natural minor).
- Descending: the 6th and 7th notes are lowered (same as natural minor).

A natural minor

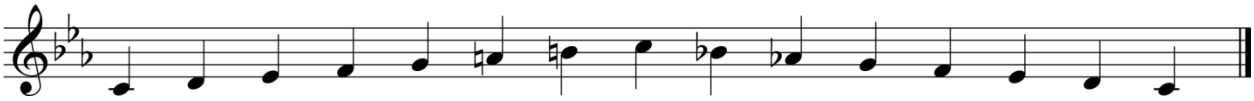


A melodic minor



Like the other scales, the melodic minor can also be written using a key signature. Notice that accidentals are used to raise the notes on the way up AND to lower them on the way down:

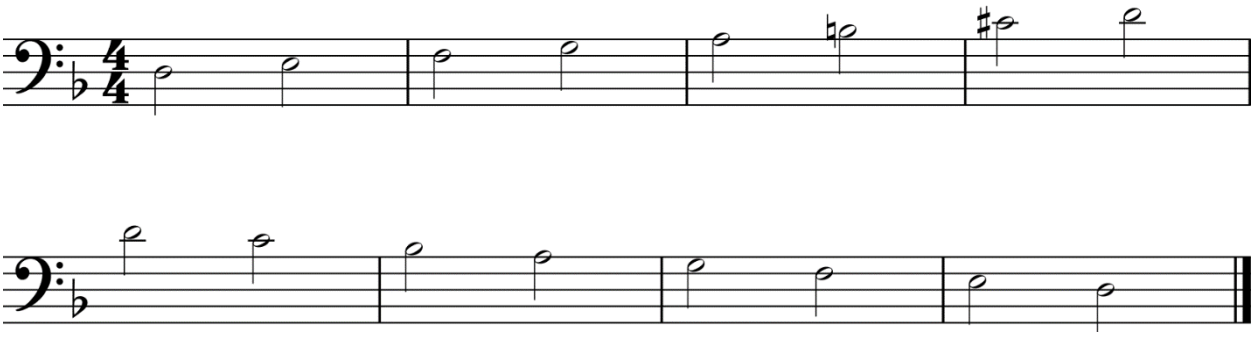
C melodic minor



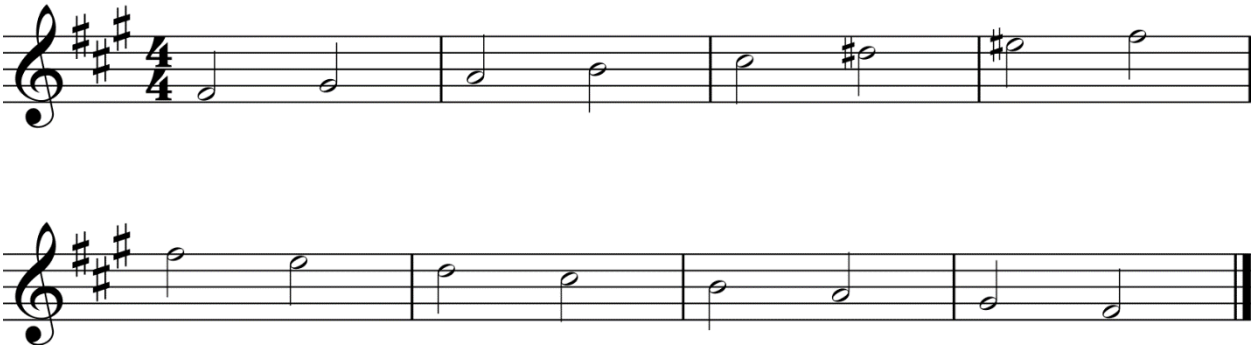
When writing a melodic minor scale, you can use the same two methods that you used for writing harmonic minor scales. Just remember that the 6th and 7th notes are *raised* on the way *up*, and *lowered* on the way *down.*

EXERCISE

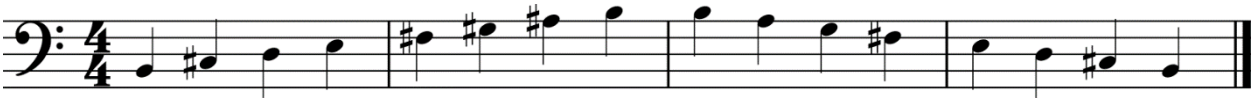
1. Write the D melodic minor scale in the Bass Clef, ascending and descending, using half notes in 4/4 time. Use a key signature. Repeat the top note.



2. Write the F# melodic minor scale in the Treble Clef, ascending and descending, using half notes in 4/4 time. Use a key signature. Repeat the top note.



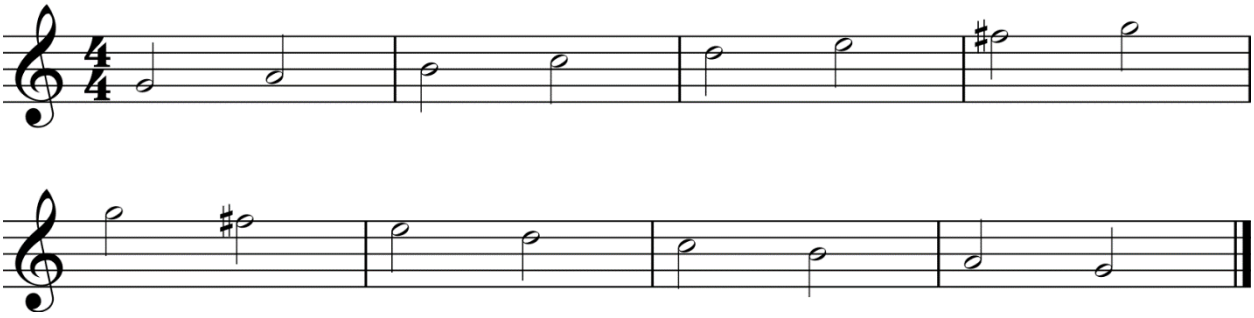
3. Write the B melodic minor scale in the Bass Clef, ascending and descending, using quarter notes in 4/4 time. Use accidentals. Repeat the top note.



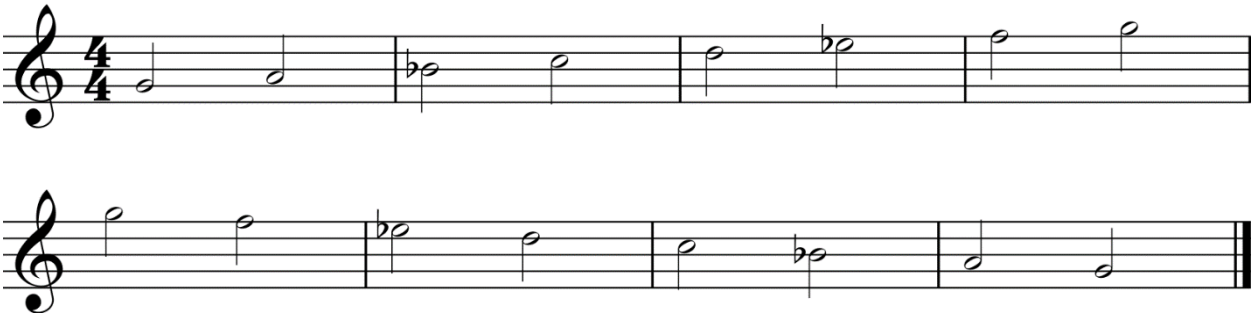
EXERCISE

1. Write the following scales using half notes in 4/4 time, in the Treble Clef, ascending and descending. Use accidentals instead of key signatures. Repeat the top note.

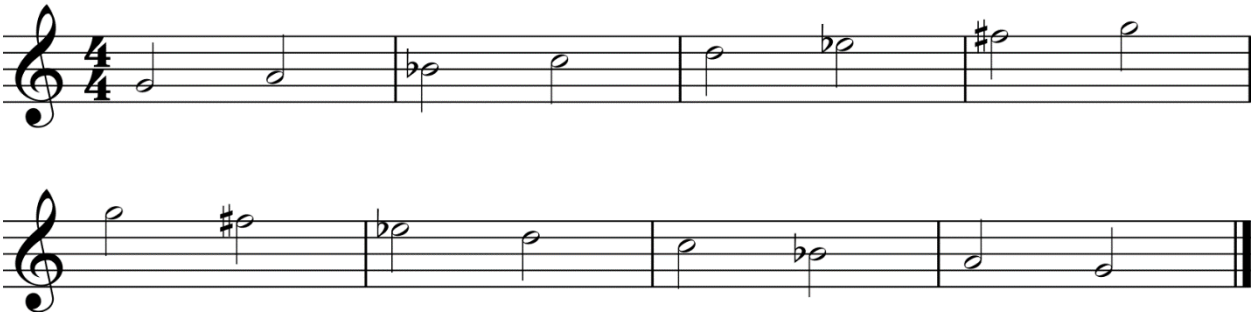
(a) G major



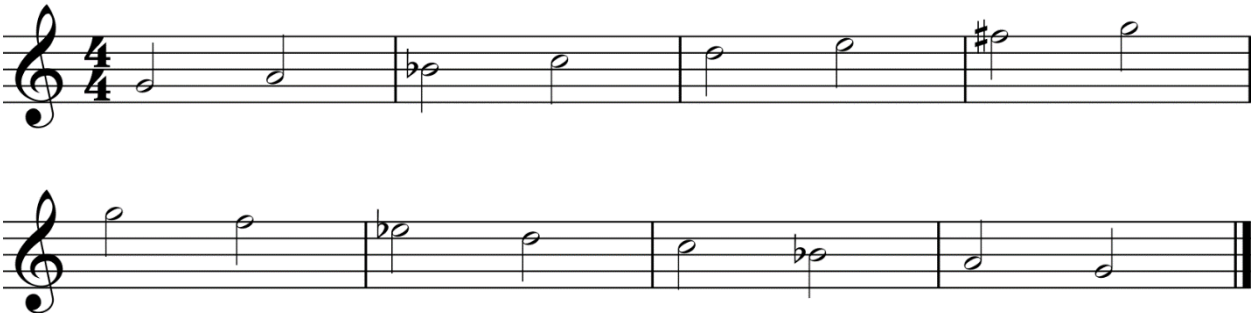
(b) G natural minor



(c) G harmonic minor

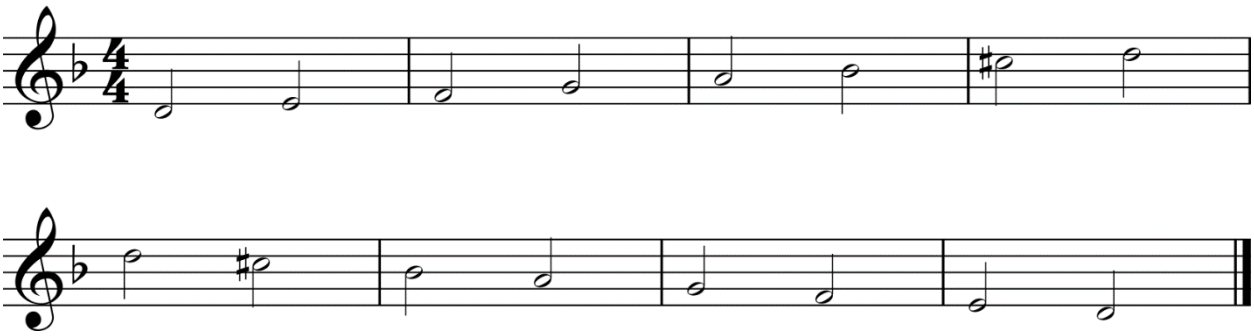


(d) G melodic minor

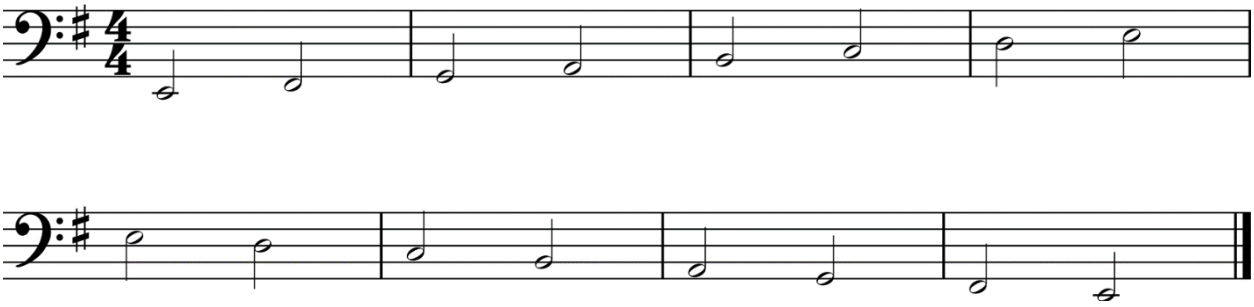


2. Write the following scales ascending and descending, in half notes in 4/4 time.
Use the correct key signature for each. Repeat the top note.
(HINT: For some exercises, it might be easier to figure out the notes of the scale first and then write the key signature.)

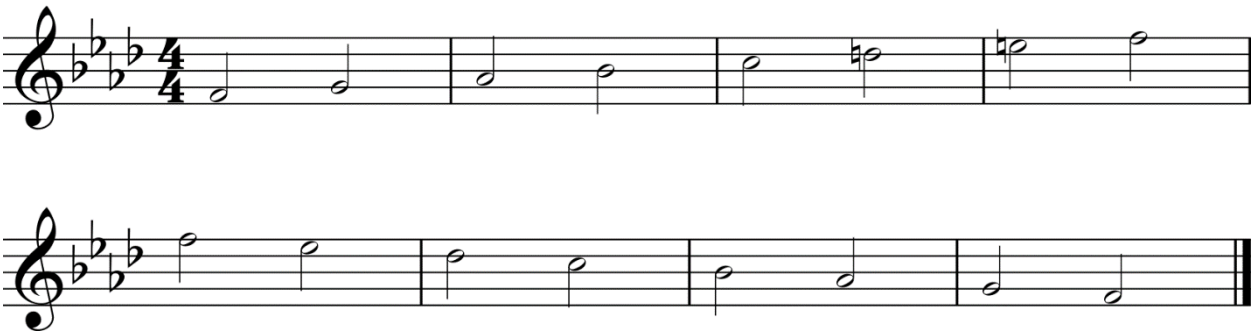
(a) D harmonic minor in Treble Clef



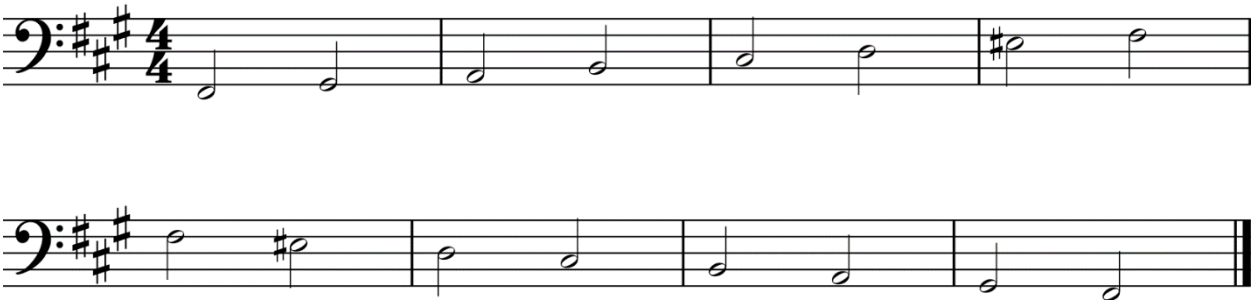
(b) E natural minor in Bass Clef



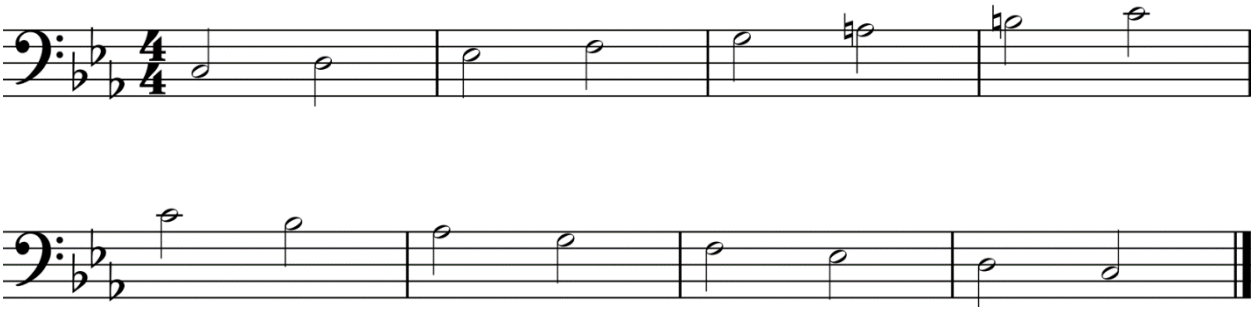
(c) F melodic minor in Treble Clef



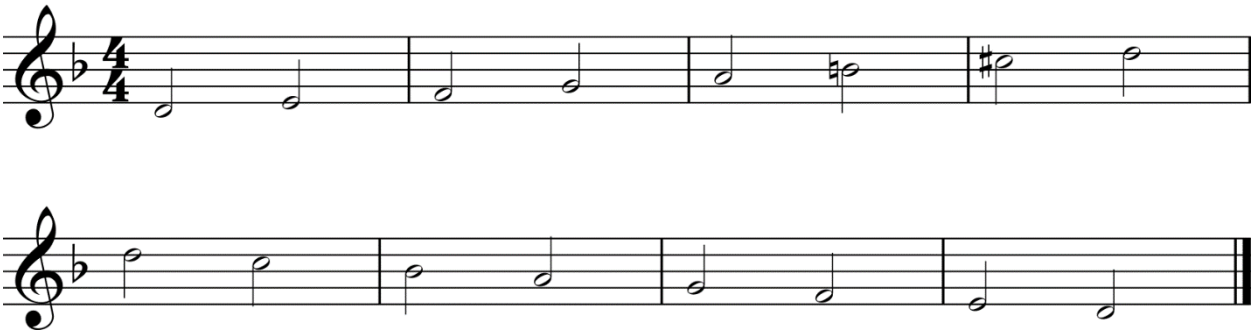
(d) F# harmonic minor in Bass Clef



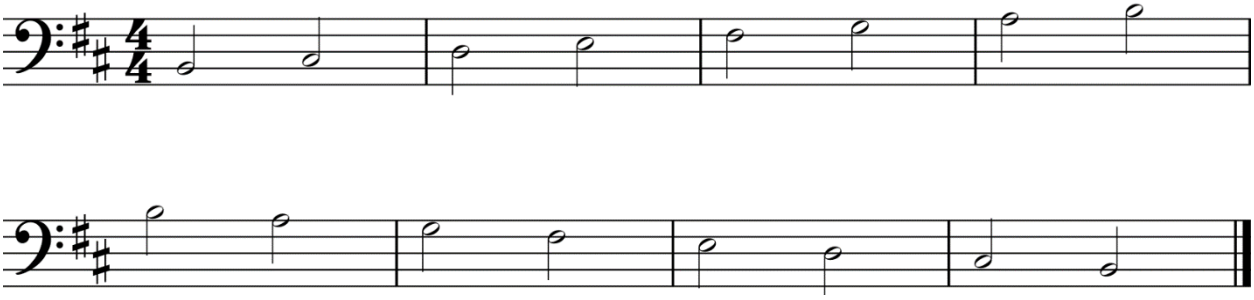
(e) C melodic minor in Bass Clef



(f) D melodic minor in Treble Clef



(g) B natural minor in Bass Clef



SUMMARY

- ✓ There are three types of **minor scales**.

- ✓ The **natural minor scale** is formed by taking the 3rd, 6th and 7th notes of the major scale and lowering them by a semitone.

- ✓ The **harmonic minor scale** is formed by raising the 7th note of the natural minor scale by a semitone.

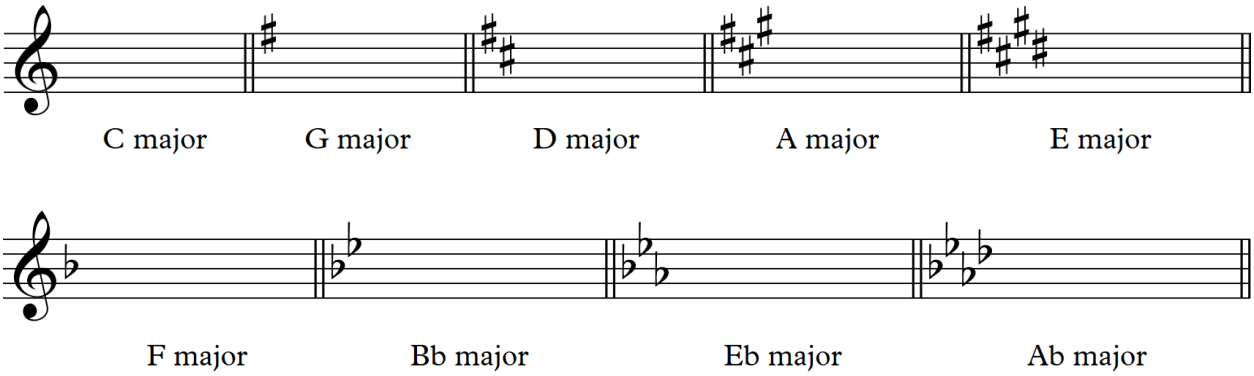
- ✓ The natural and harmonic minor scales are the same both ascending and descending.

- ✓ The **melodic minor scale** is formed by raising the 6th and 7th notes by a semitone on the way up, then lowering them (to form a natural minor scale) on the way down.

- ✓ For a given minor key, the relative major has the same key signature.

Lesson 6.3 - Circle of Fifths

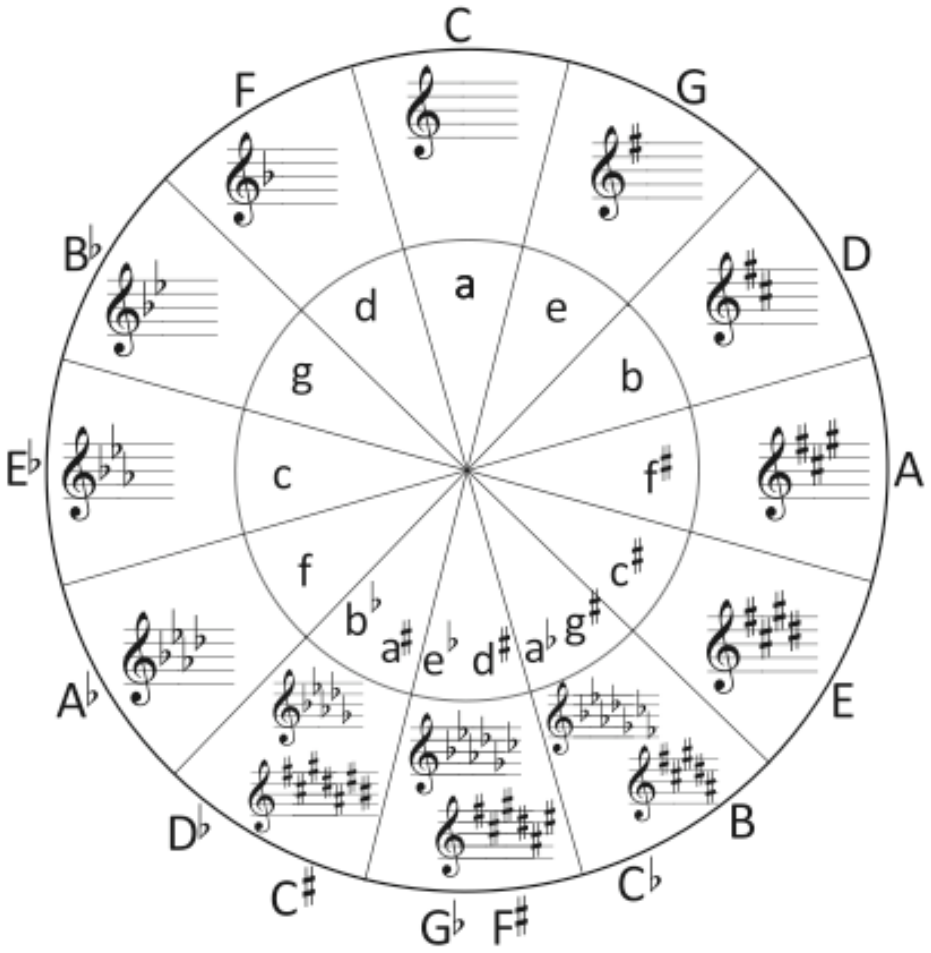
Here's a review of the key signatures for the major keys that we've learned so far:



There is a pattern to these key signatures which is very useful for remembering them:

Sharp Keys	*Flat Keys*
• If we start at **C** and go ***up*** **a perfect fifth**, we get **G major** – the key with **one sharp**. • If we go up another perfect fifth, we get **D major** – **two sharps**. • Up another perfect fifth gives us **A major (three sharps),** and so on.	• If we start at **C** and go ***down*** a perfect fifth, we get **F major** – the key with **one flat**. • Down another perfect fifth gives us **Bb major (two flats),** and so on.

This pattern of going up or down perfect fifths can be summarized in what is called the **Circle of Fifths** (see diagram on the next page).



- Starting at the top and going around the right side of the circle (clockwise), we see that you must add a *sharp* each time you go *up* a perfect fifth.
- Starting at the top and going around the left side of the circle (counter-clockwise), you must add a *flat* each time you go *down* a perfect fifth.
- Notice that three keys can be represented with flats or sharps: Db/C#, Gb/F#, Cb/B. This means that each pair uses the same notes on the keyboard. Db major and C# major, for example, use the exact same notes.
- Keys in the inner circle are minor keys – we will look at these in the next lesson.

REMEMBER: Order of Sharps/Flats in Key Signatures

The circle of fifths helps us remember the *number* of sharps or flats for each key, but the *order* of the sharps and flats in the key signature is also important. In the key of Ab major, for example, the flats are written in the order Bb – Eb – Ab – Db; you can't write it in another order (such as Ab – Bb – Db – Eb). Fortunately, the order of sharps and flats is easy to remember.

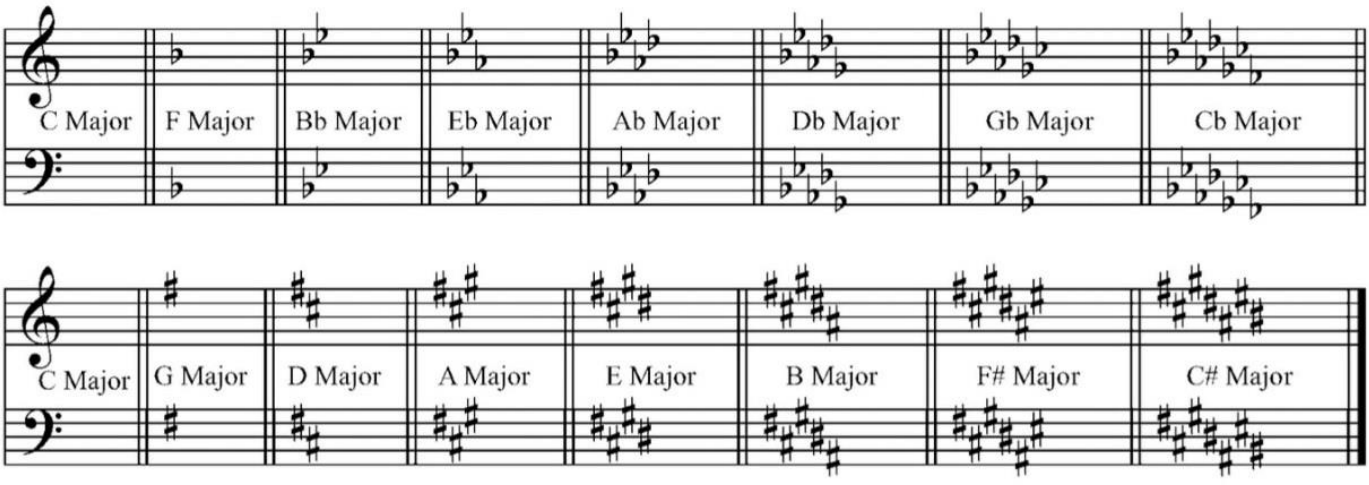
Order of SHARPS: **F, C, G, D, A, E, B**

Father Charles Goes Down And Ends Battle

Order of FLATS: **B, E, A, D, G, C, F**

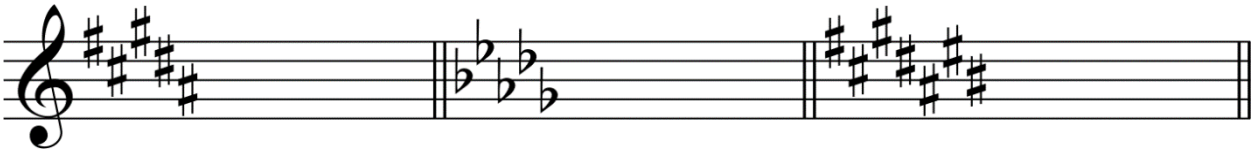
Battle Ends And Down Goes Charles' Father

Here's how all of the key signatures look in both treble and bass clefs:

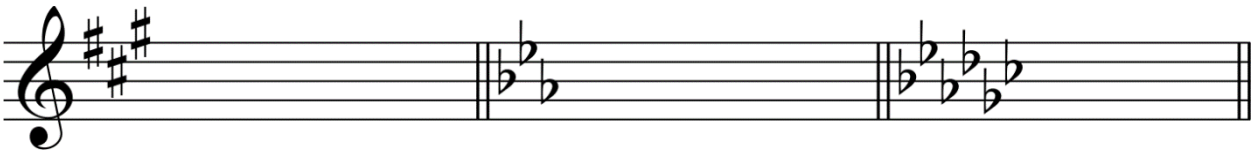


EXERCISE

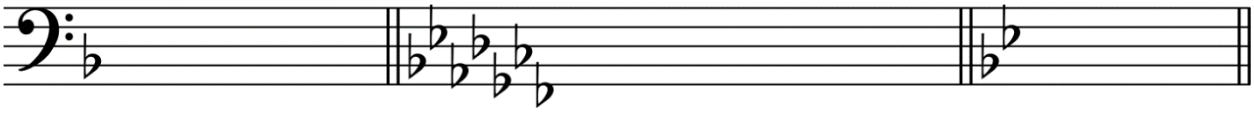
1. Write each of the following key signatures.



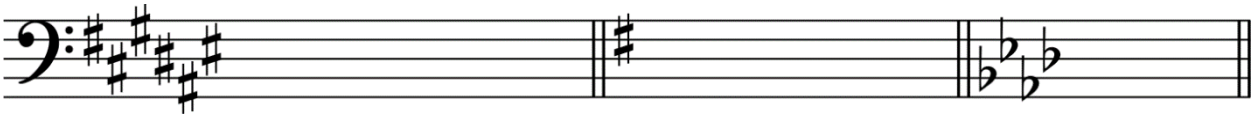
B major Db major C# major



A major Eb major Gb major

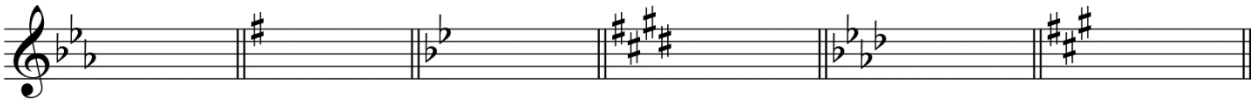


F major Cb major Bb major

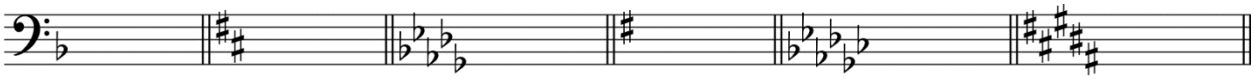


F# major G major Ab major

2. Name the major key for each given key signature.



Eb major _G major_ _Bb major_ _E major_ _Ab major_ _A major_



F major _D major_ _Db major_ _G major_ _Gb major_ _B major_

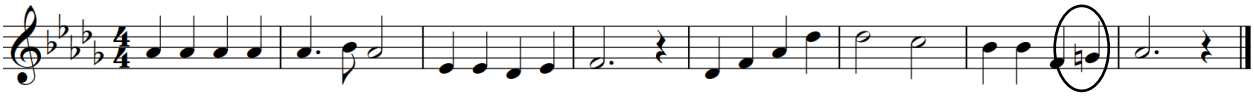
Identifying the Key of a Piece of Music

Most music has a key signature which can help you name the key. However, sometimes the key signature is not written so you have to figure out the key based on the accidentals. Be careful – sometimes there are accidentals that do not belong to the key! Remember, a piece of music does not have to end on the tonic note. Do not just look at the last note to identify the key.

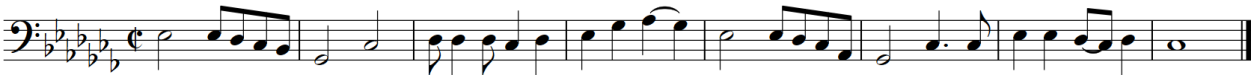
EXERCISE

Name the key of each musical excerpt. Circle any accidentals which are NOT part of the key.

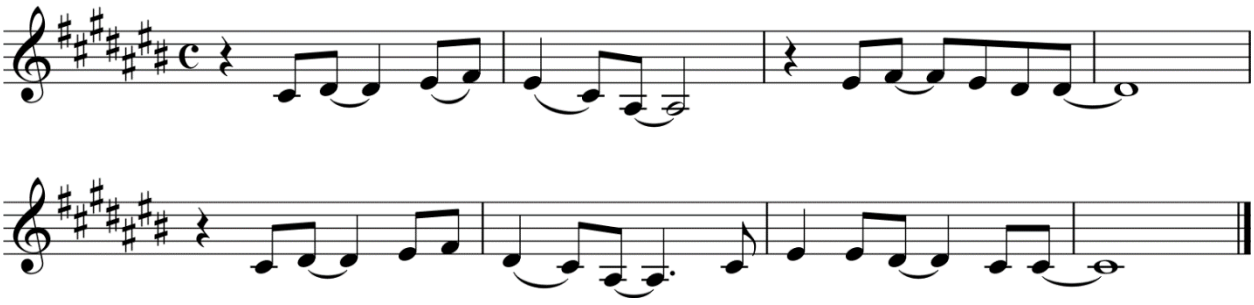
1. Key: _Ab_ _major_____



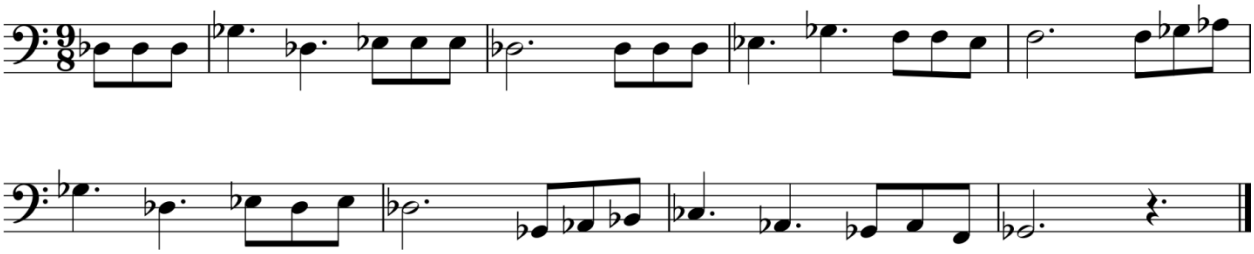
2. Key: _Cb_ _major_____



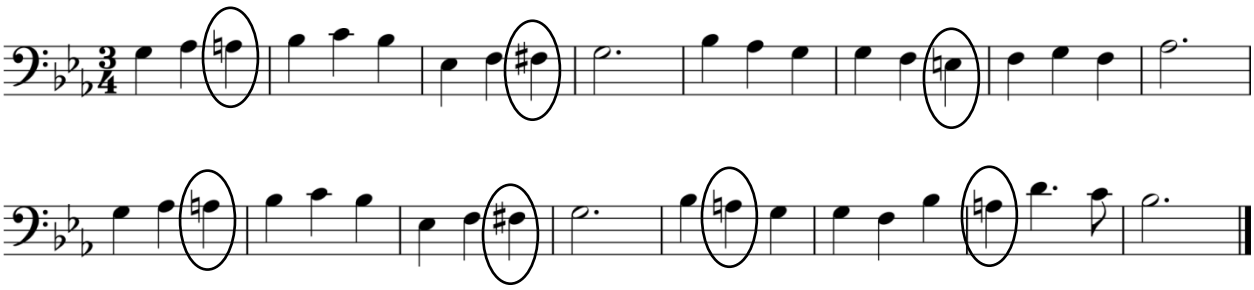
3. Key: _C#_ _major_____



4. Key: _Gb__ __major_____



5. Key: _Eb_ __major____



SUMMARY

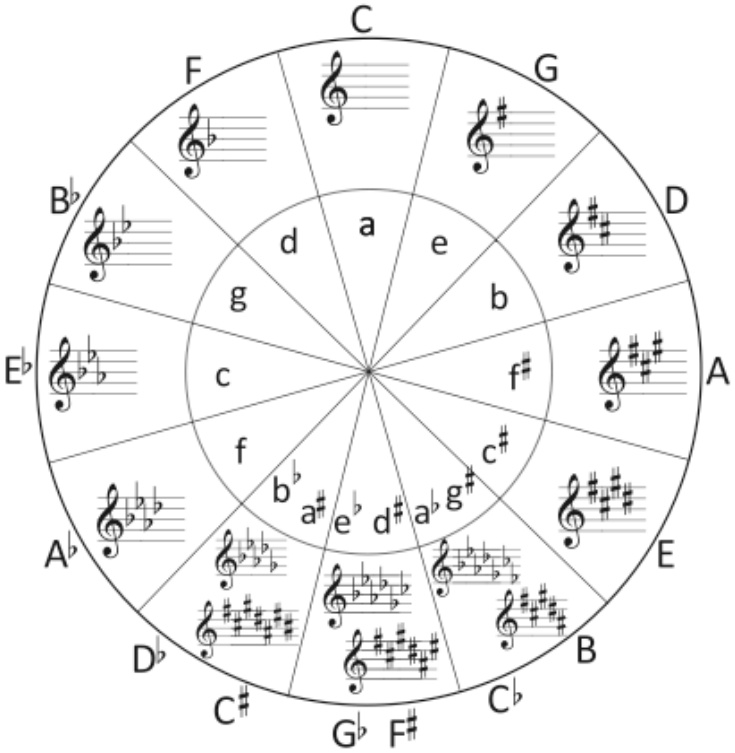
- ✓ The **Circle of Fifths** tells us the **key signatures** for **all major keys** in music. **Memorize it**!
- ✓ The order of sharps: **Father Charles Goes Down And Ends Battle.**
- ✓ The order of flats: **Battle Ends And Down Goes Charles' Father.**

Minor Key Signatures

In lesson 6.2, we learned three forms of the minor scale: natural, harmonic and melodic. Remember that:

- the *natural minor* scale is used to determine which sharps or flats are in the key signature for a particular minor key.
- the key signature for the minor key is the same as the key signature for the relative major (ex. C minor has 3 flats, just like Eb major).

Just like major key signatures, the circle of fifths can help us remember how many sharps or flats are in each minor key. The minor keys are on the inside circle.



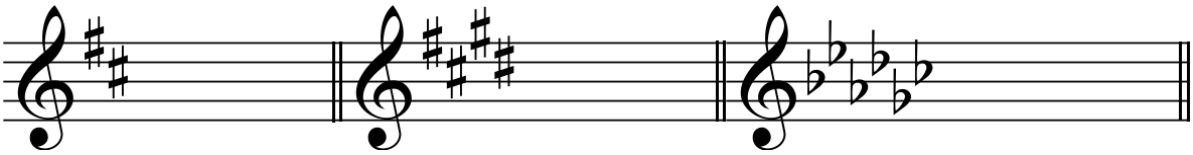
If we look at the circle of fifths closely, we see a number of things.

- Sharp keys: when you go up a perfect fifth, add a sharp (ex: E minor has 1 sharp, B minor has 2 sharps).
- Flat keys: when you go down a perfect fifth, add a flat (ex. G minor has 2 flats, C minor has 3 flats).
- Each minor key is paired with its relative major; they have the same key signature. For example, both A major and F# minor both have 3 sharps.
- The relative major is a *minor third* higher than the minor key. For example, the relative major of F minor is Ab major (F to Ab is a minor third higher).

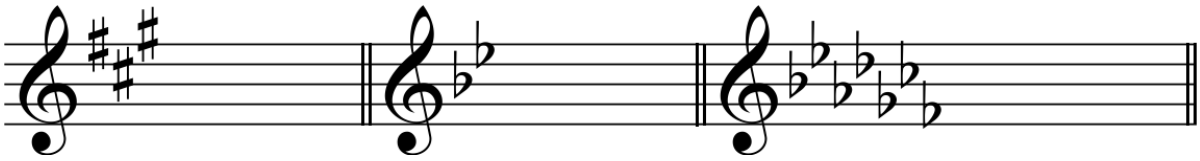
So now you have a number of different ways to figure out the key signature for a minor key! You can write the natural minor scale and figure out the key signature. You can remember the patterns in the circle of fifths along with finding the relative major. Or you can count up three semitones to find the relative major key and use the shared key signature.

EXERCISE

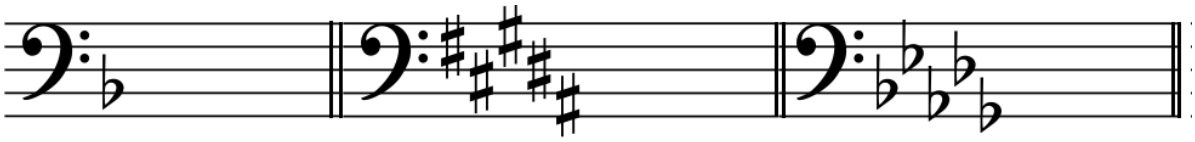
1. Write each of the following key signatures.



B minor C# minor Eb minor

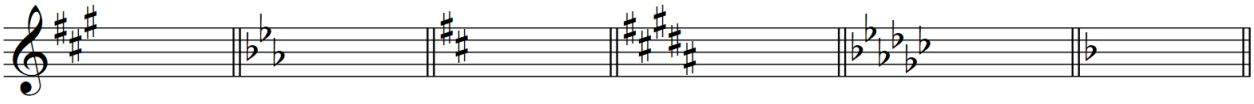


F# minor G minor Ab minor

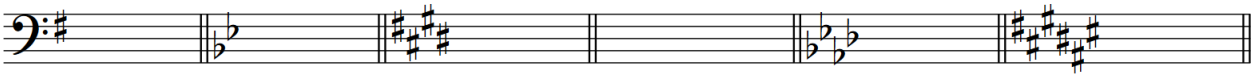


D minor G# minor Bb minor

2. Name the following minor key signatures.



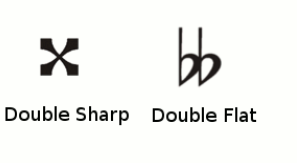
F# minor C minor B minor G# minor Eb minor D minor



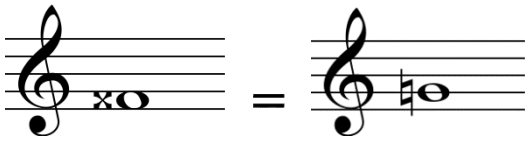
E minor G minor C# minor A minor F minor D# minor

Double Sharps and Flats

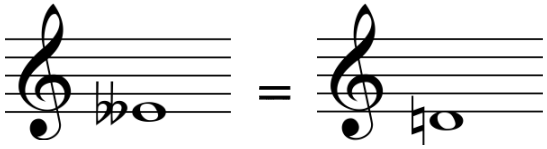
Sometimes in order to write music correctly, we need to write a **Double Sharp** or **Double Flat.**

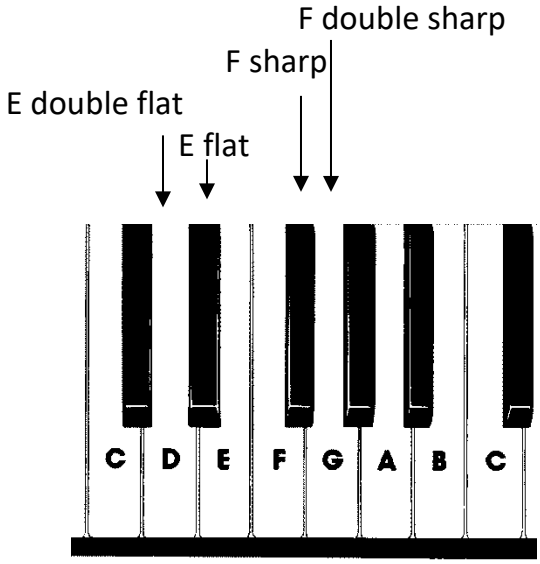


A **Double Sharp** is a sharp note (such as **C**#, **D**#) raised by **another semitone.**
For example, the note *F Double Sharp* is enharmonically equivalent to *G natural*.

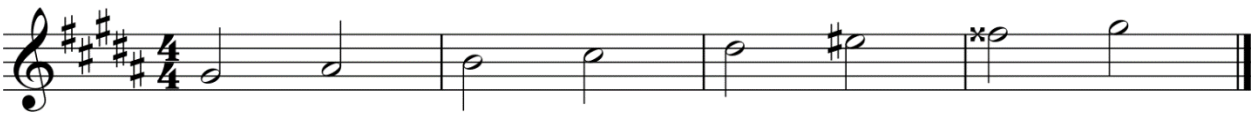


Similarly, a **Double Flat** is a flat note (such as **Bb**, **Eb**) lowered by **another semitone.**
For example, the note *E Double Flat* is enharmonically equivalent to *D natural*.





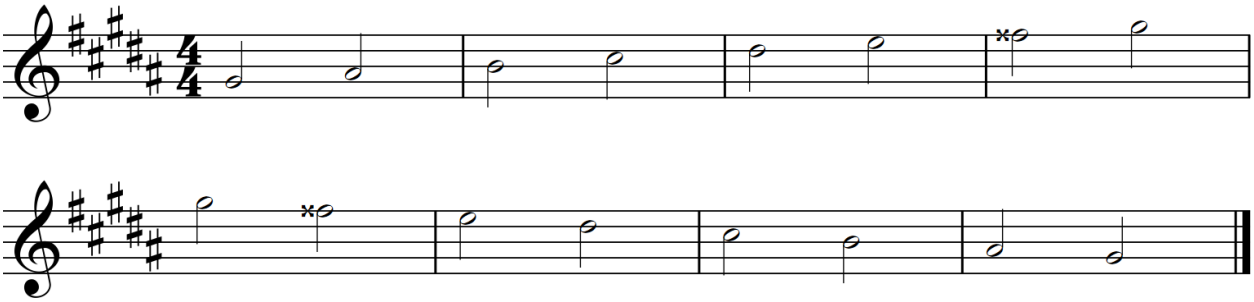
Notice that the note **F** double sharp occurs in the G# melodic minor scale:



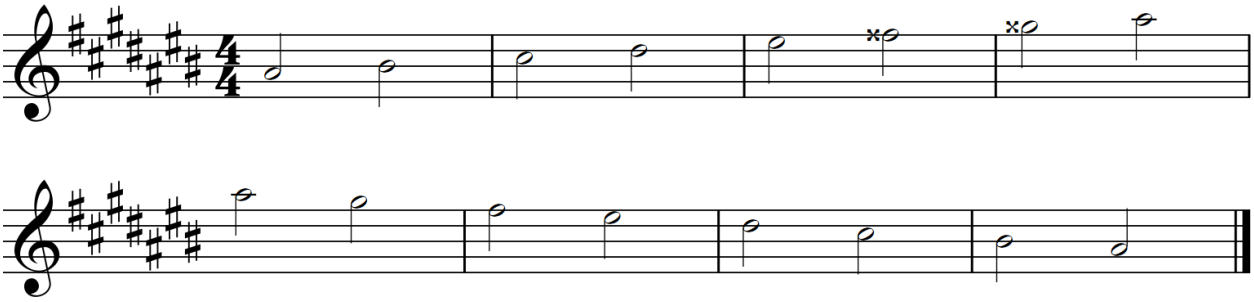
EXERCISE

1. Write the following minor scales (ascending and descending) whose key signatures are given, using half notes in 4/4 time. Repeat the top note. Name the key.

(a) Harmonic minor Key: G# minor



(b) Melodic minor Key: A# minor



Naming the Key of a Piece of Music

Now that we know each key signature can represent a major or minor key, how can we tell which it is?

One way to distinguish a major key from a minor key is to listen to the music. Major keys are often described as happy or joyful. Minor keys, on the other hand, can sound sad or even angry.

Another way to look for a minor key is to look at the accidentals. Remember that the 7th note of the scale is often raised in a minor key, and its accidental is not in the key signature.

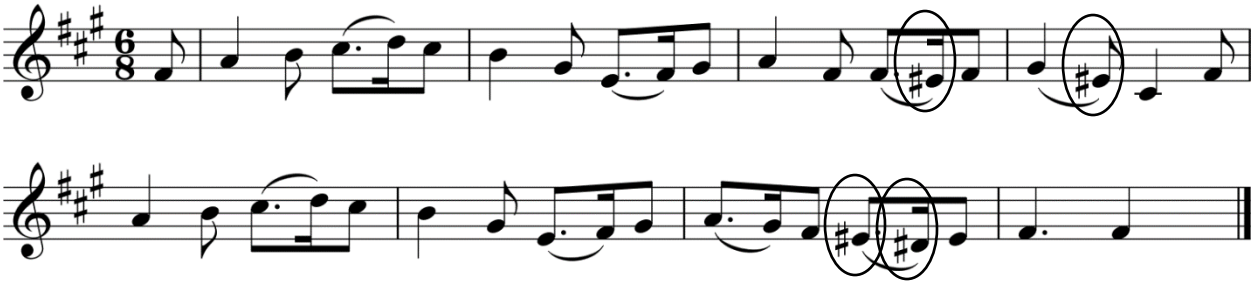
For example, in the key of E minor, the raised 7th note is D# (but E minor only has F# and C# in the key signature). Be careful, though, because the 7th note might not be raised all of the time – if the melody is going down it will probably use the melodic minor form (lowered 7th note).

EXERCISE

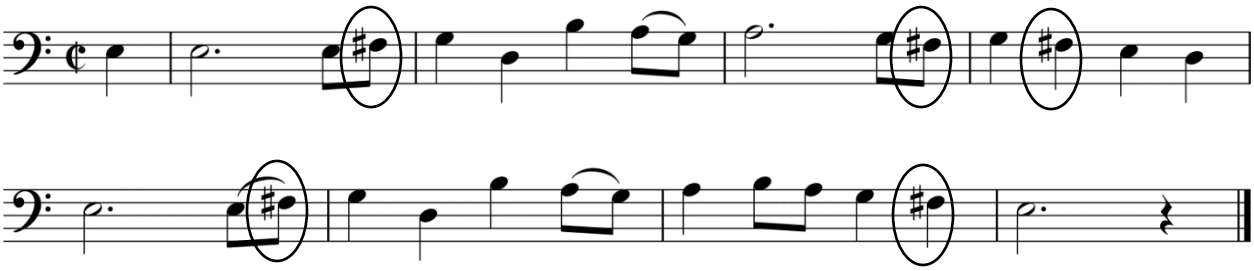
1. Name the key in each of the following examples. *Be careful! Not all of the keys are minor.*

Circle all accidentals that do not belong to the key signature.

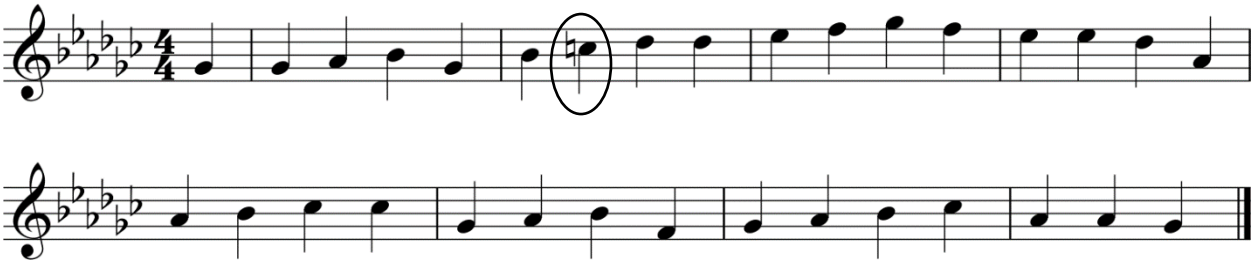
(a) Key: __F#__ _minor_____



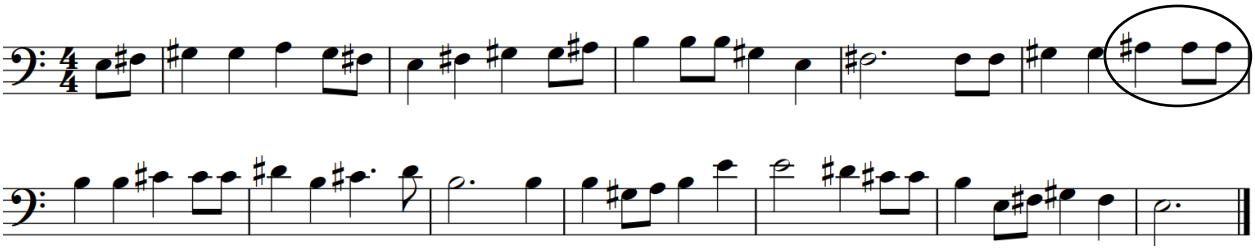
(b) Key: _E___ _minor_____



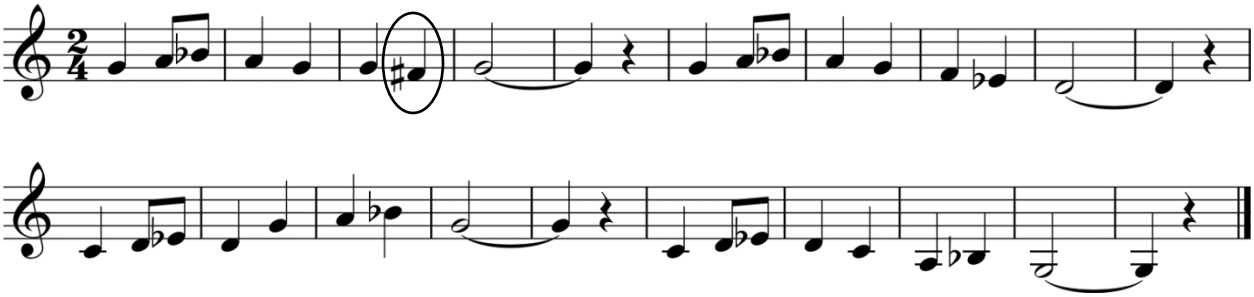
(c) Key: _Gb__ _major_____



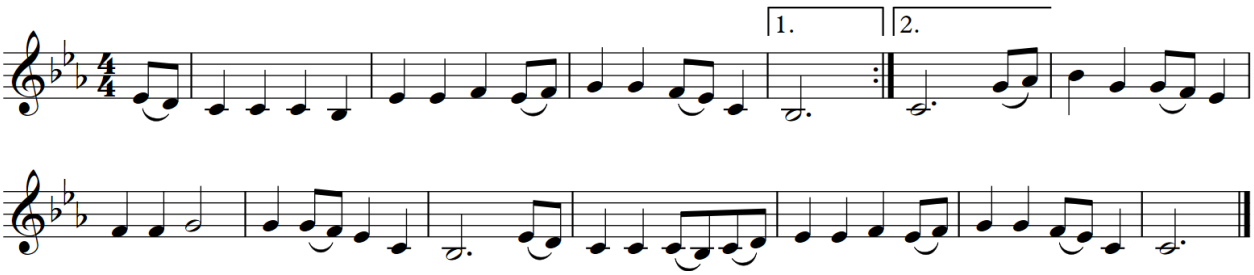
(d) Key: _E___ _major_____



(e) Key: _G___ _minor_____



(f) Key: _C___ __minor_____

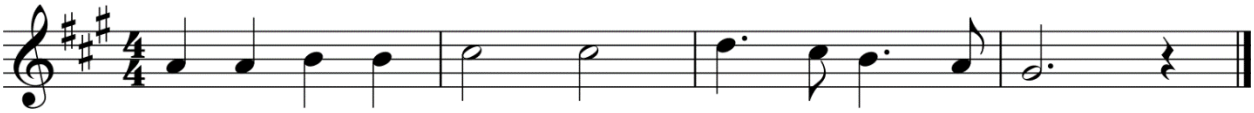


SUMMARY

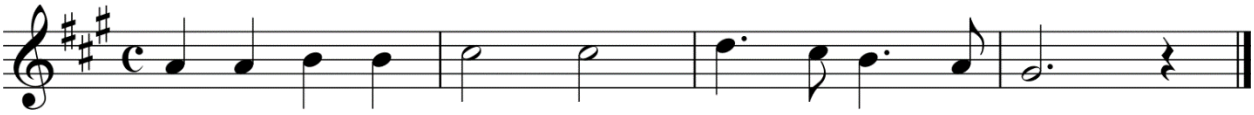
- ✓ A **Double Sharp** is a sharp note (such as **C#**, **D#**) raised by **another semitone.**
- ✓ A **Double Flat** is a flat note (such as **Bb**, **Eb**) lowered by **another semitone.**
- ✓ Major keys often sound happy or joyful.
- ✓ Minor keys often sound sad, dark, angry, or agitated.
- ✓ Minor keys use the key signature based on the notes of their **natural minor scale**.
- ✓ Minor keys use the same key signatures as their **relative major** (a minor 3rd higher).

Lesson 6.4 - Cut Time

You already know that 4/4 is a very common time signature. In fact, it is often referred to as 'common time' and represented with the symbol 𝐂.



Same example, but time signature is written differently:

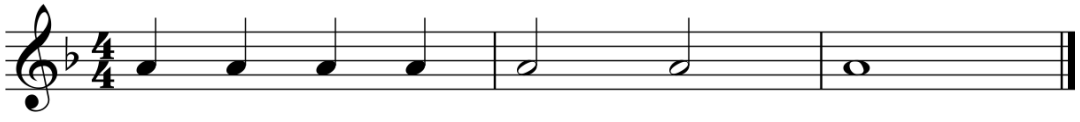


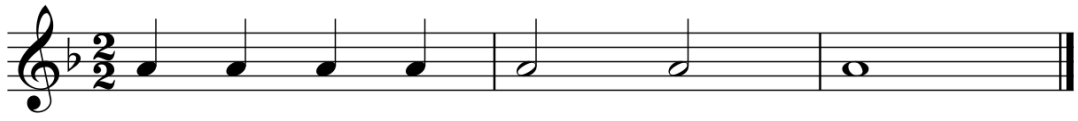
You may also have seen the following:

This time signature is sometimes called 'cut time' and it is the same as 2/2.

We know that the top number tells us how many beats are in a bar and the bottom number tells us what kind of note gets one beat. If we are in 2/2 time, this means that we have two beats in a bar, and that a **half note gets one beat**. Think of the time signature as "two halves" in a bar.

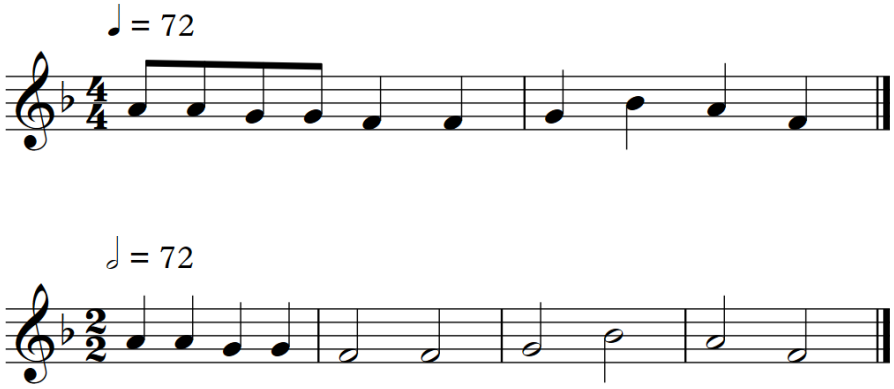
If we compare two examples, one in 4/4 and another in 2/2, we see that they look the same:





The main difference between 2/2 and 4/4 is how they are *counted* and how they *feel*. 4/4 has the feeling of four beats or pulses in a bar whereas 2/2 has two beats (pulses).

Another set of examples looks different, but will actually sound the same because of the tempo and time signatures:



These examples **sound** the same because of the **metronome marking**. In cut time (2/2), we use a half note as the note for the metronome marking and in common time (4/4), we use a quarter note.

One practical reason why composers use 2/2 (cut time) instead of 4/4 (common time) is to write fewer beams and flags on notes.

Counting in Cut Time

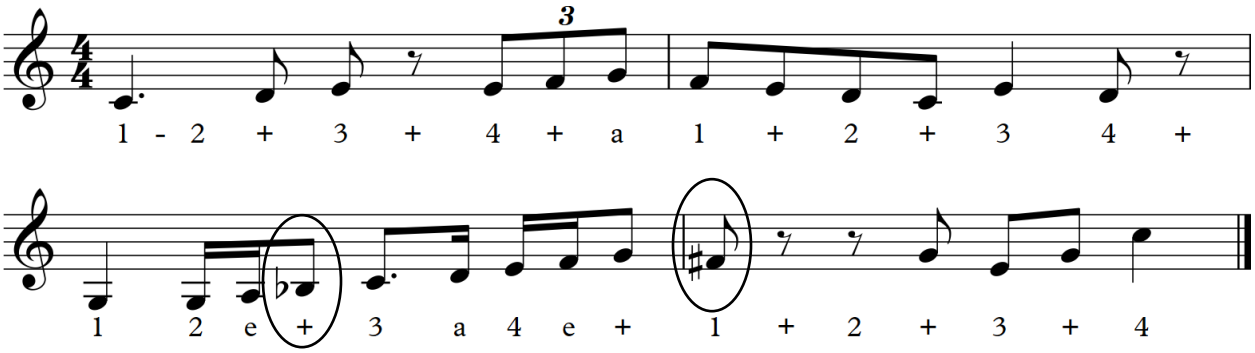
When we play or sing music, it is very important that we **always count** in our head the **beats** of the music. Remember that if beats are divided into four parts (sixteenth notes in 4/4 and eighth notes in 2/2), we use "1 e + a," pronounced "1 ee and ah."

Also, recall that a **triplet** (as in the exercise on the next page) has three notes in the space of what would normally be two. You can have eighth note triplets, but also quarter note triplets as well. Triplets and compound beats are counted as "1 + a."

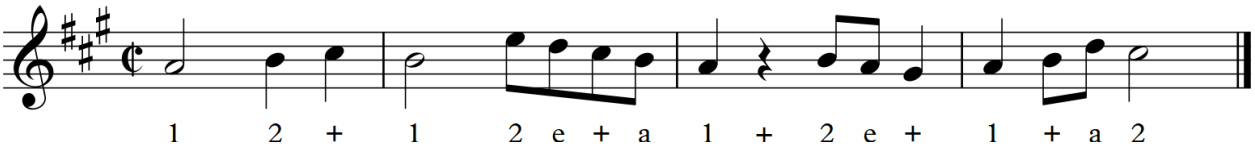
EXERCISE

Name the key of the following pieces and circle any accidentals.
Write out the counts underneath. Clap the rhythm.

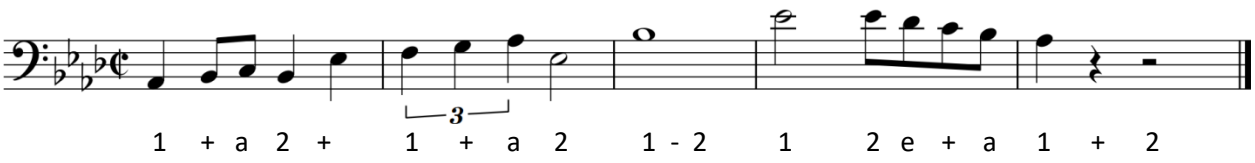
(a) Key: _C__ _major_____



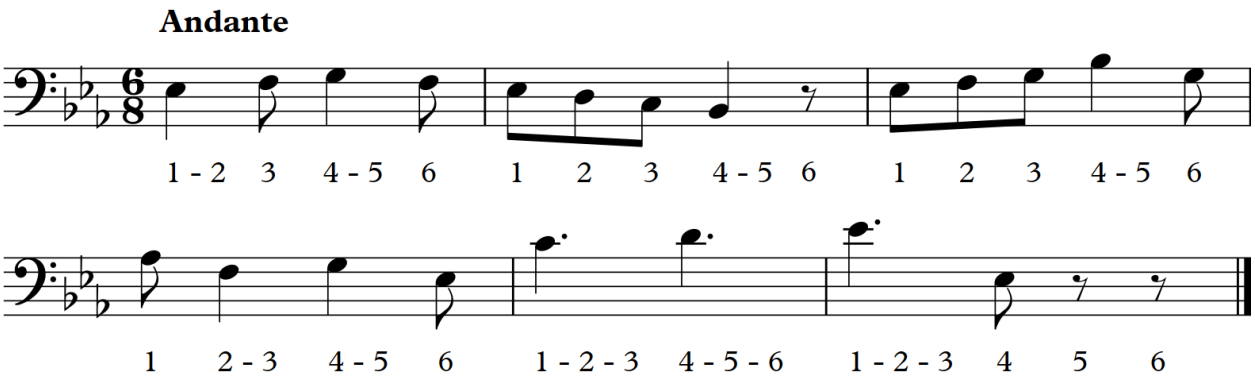
(b) Key: _A__ _major_____



(c) Key: _Ab_ _major_____



(d) Key: _Eb_ _major_____



SUMMARY

- ✓ Another name for 4/4 time signature is **common time,** represented with a 𝐂.
- ✓ **Cut time** is another name for the 2/2 time signature, and is represented as 𝐂|.
- ✓ Cut time or 2/2 has two half notes per bar, so it has the same rhythm as a 4/4 bar but is counted differently (in two).
- ✓ Pieces that sound exactly the same can be written in different ways depending on their time signature and the metronome marking.
- ✓ When counting beats, we use "1 e + a" for beats that are sub-divided into four parts and "1 + a" for beats that are sub-divided into three parts, such as compound beats or triplets.

Lesson 6.5 – Phrase Markings

A **musical phrase** is like a sentence in language; it is only part of a larger sentence or section of the music. A small phrase in language conveys an idea and has meaning in itself, but because it is a part of a larger division, it is dependent on the whole sentence for its meaning. This is the same for musical phrases.

The ends of phrases mark "punctuation points" within the larger structure of the music. Normally, it is a place where wind players and singers take a breath. Even if they don't physically breathe, they must be sure to allow the music to "breathe."

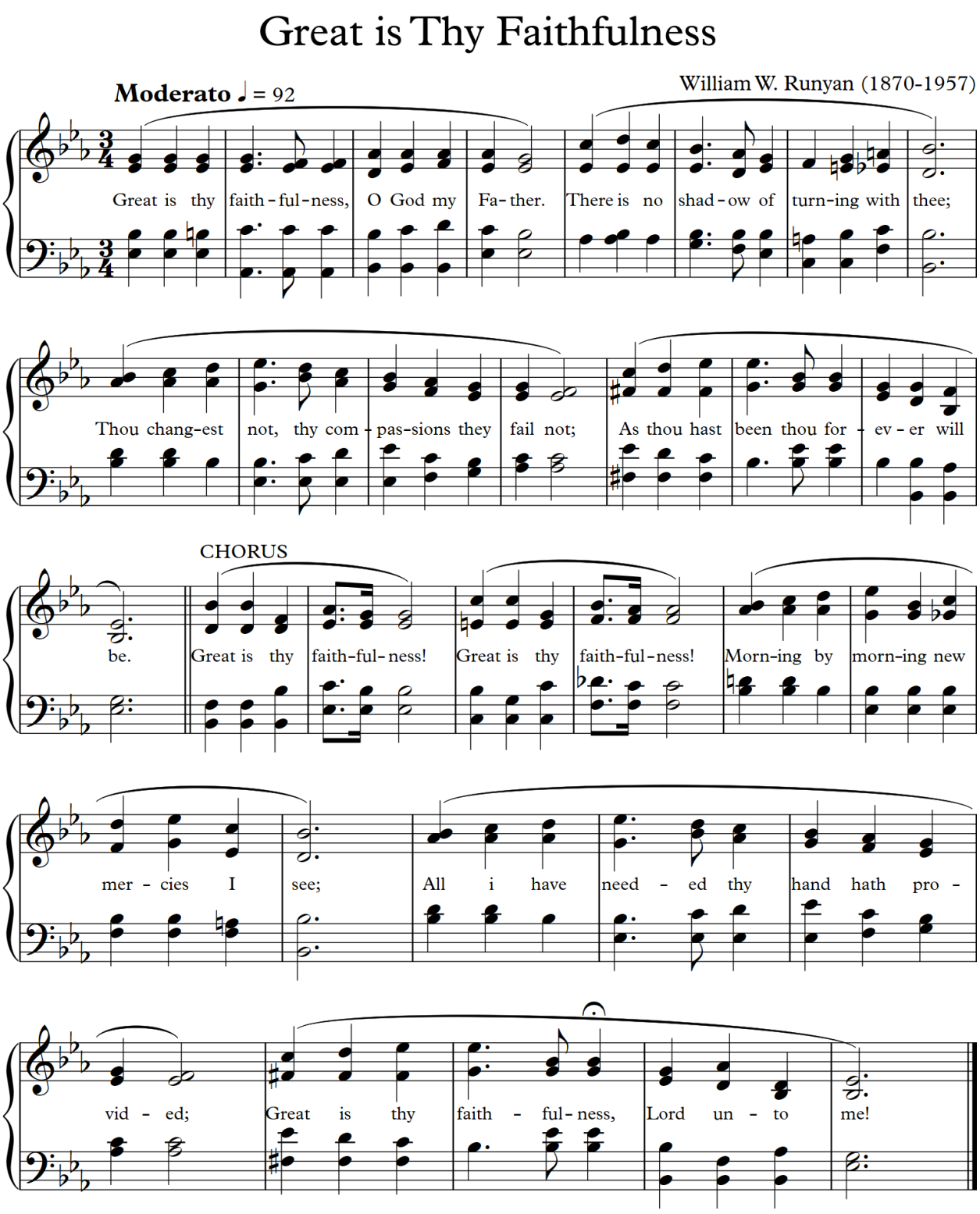
Typically, musical phrases balance each other within music. In other words, they have the same length (number of bars). Also, the notes in a phrase feel and sound like they belong together in a small unit.

Phrases are shown with **curved lines over the top of the notes** known as **phrase markings**. They are often seen in piano music. They are typically left out of vocal music as the phrase coincides with the grammar and the lyrics or text. They are also left out of instrumental music, as the phrase marking can be confused with a slur. It is up to the musician and/or conductor to determine where the phrases would be.

EXERCISE

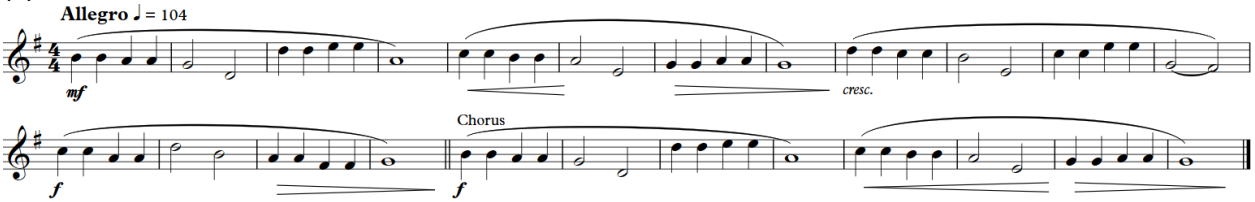
1. Group the following music into phrases, using phrase markings.
   The first one has been done for you.

TEACHER NOTE: Answers may vary slightly between students, between either two-bar or four-bar phrases.

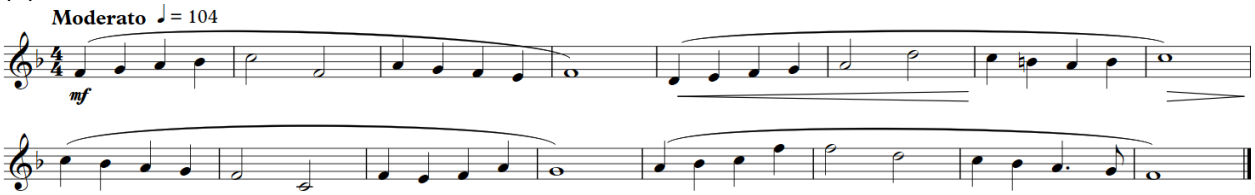


2. Put phrasing marks on the following melodies out of the band tune book.

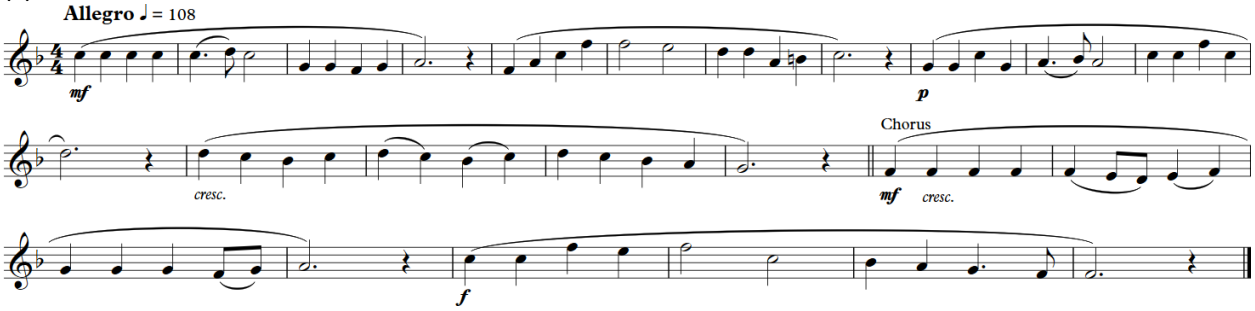
(a)



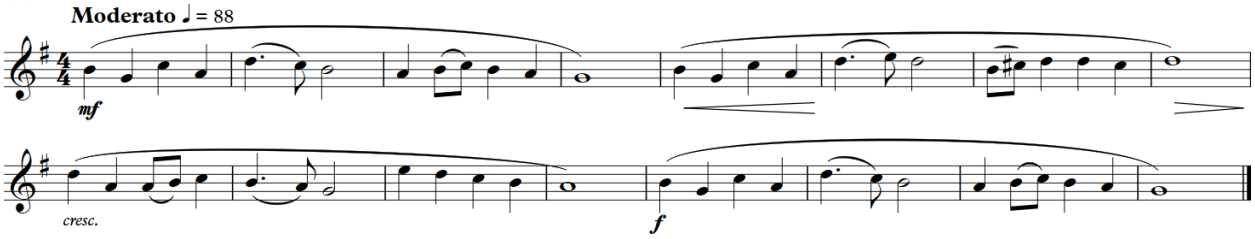
(b)



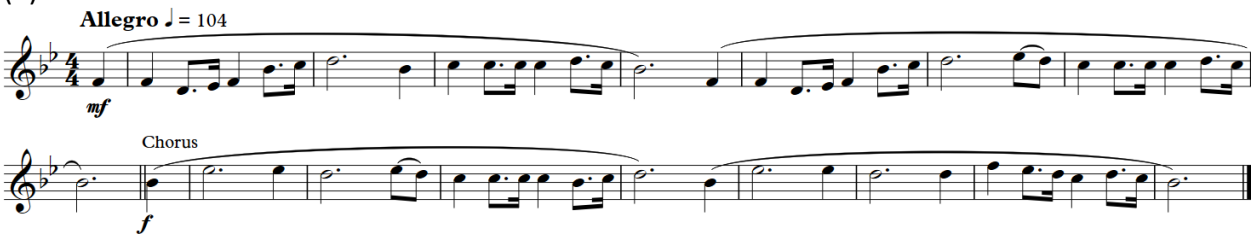
(c)



(d)



(e)



FOR DISCUSSION

Review the melodies in the preceding exercise. What do you notice about melodic and rhythmic patterns in terms of their regularity or frequency?

What do you notice about long notes or rests, ends of phrases, etc.?

How many bars are there in a typical phrase?

SUMMARY

- ✓ A musical **phrase** is a series of notes within a larger framework of a piece.
- ✓ **Phrases** are marked by **curved lines over top of the notes**, though they are not always marked. Therefore, one must learn to distinguish when phrases stop and start in order to play and sing with more expression.
- ✓ In vocal music, phrases are usually marked by the punctuation of the text.
  In all music, phrases often end with long notes, and are usually similar in length (i.e. a piece has "four-bar phrases").

Musical Terms

Here are more tempo terms that you might see, in addition to the ones we have previously learned, along with approximate metronome markings:

Indication	Tempo	Approximate number of beats per minute
Allargando	slower and broader	
Grave	very Slow	50-60
Largo	very Slow	50-60
Larghetto	a little faster than *Largo*	60-70
Vivace	very fast	132+
Prestissimo	as fast as possible	144+
Stringendo	getting faster	
Piu Mosso	more movement	
Meno Mosso	less movement	

The following terms are sometimes used to modify other words:

Poco	a little
Molto	a lot
Piu	more
Meno	less
Poco a poco	little by little

Some examples:

cresc. poco a poco → *cresc. little by little*

molto allegro → *'a lot' allegro (faster than allegro)*

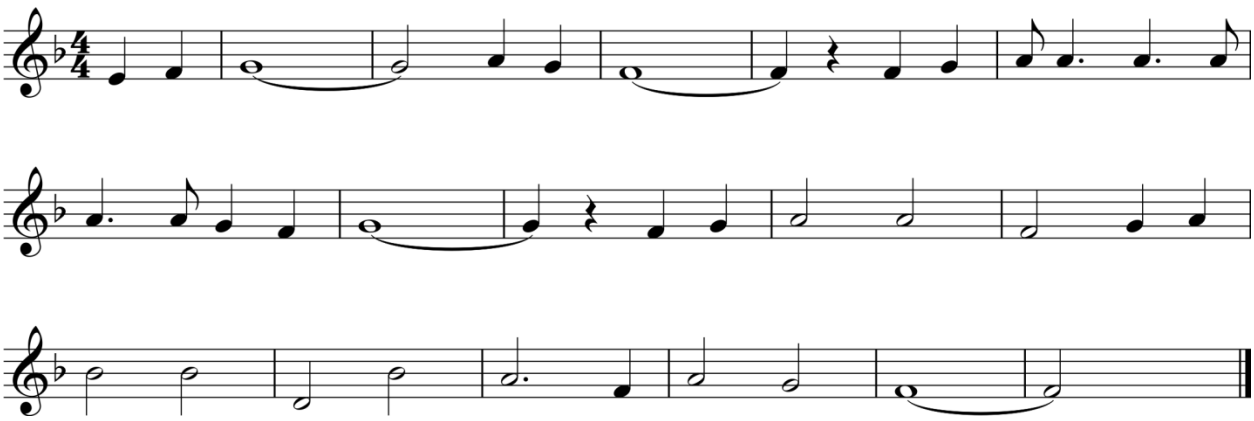
BONUS EXERCISE

Add the following to the examples below:

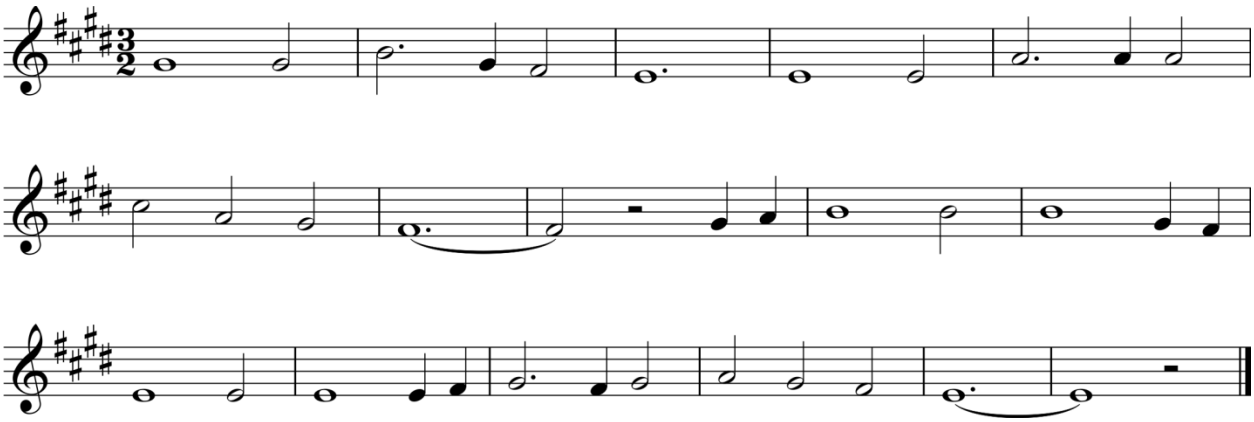
- a tempo indication (including metronome marking, remembering what kind of note gets one beat)
- at least two dynamic markings (possibly including *crescendos* and *diminuendos*)
- at least one *accelerando (accel.), rallentando (rall.)* or *ritardando (rit.)*
- at least two articulation or style markings (accent, staccato, *legato*/slur, *dolce*, etc.)
- (optional) Write in the counts underneath

TEACHER NOTE: Answers will vary between students.

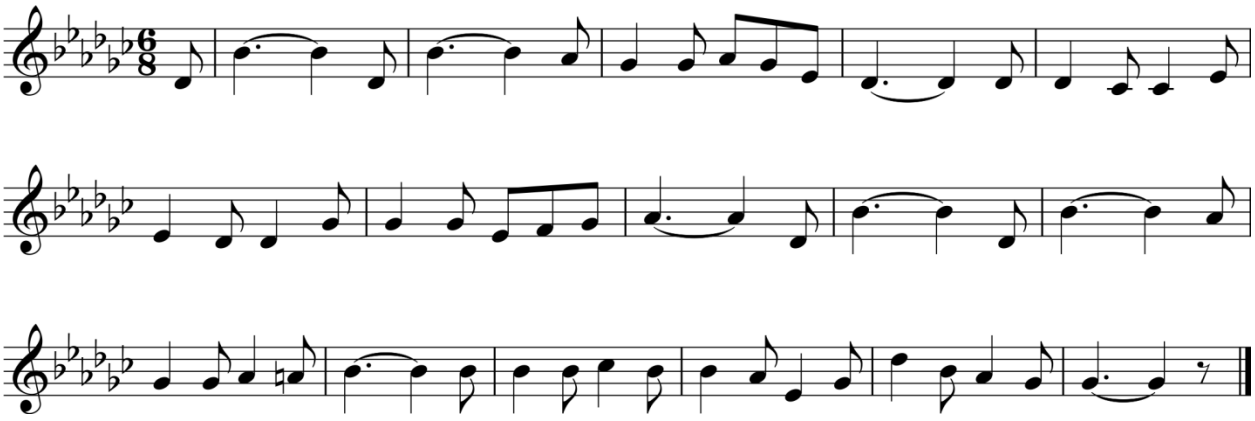
(a)



(b)



(c)



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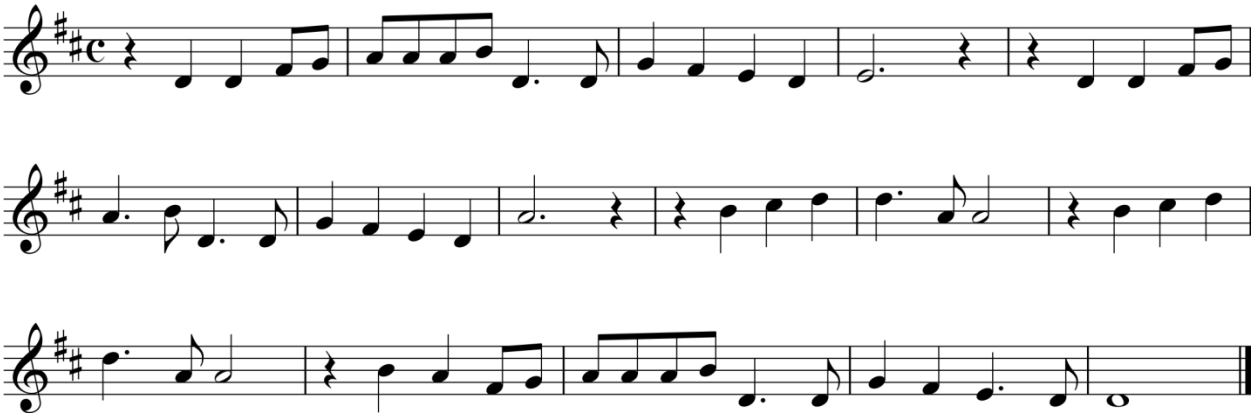
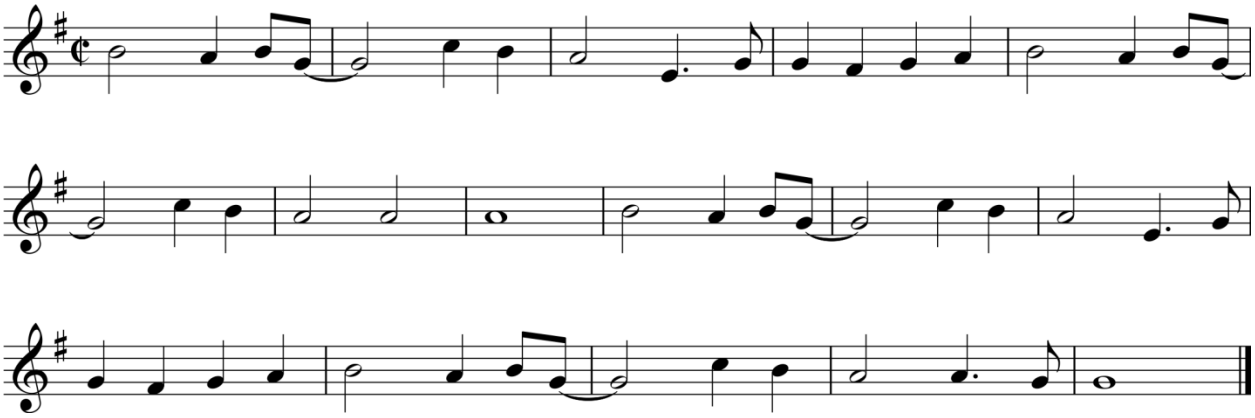


(e)



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