

10th Grade

Music – Choir I: Triads

April 13 – April 17

Time Allotment: 20 minutes per day

Student Name: _____

Teacher Name: _____

Packet Overview

Date	Objective(s)	Page Number
Monday, April 13	APRIL BREAK: No Assignment	
Tuesday, April 14	1. Review triad structure and quality. 2. Map major and minor triads onto the circle of 5ths (interval calculator)	3
Wednesday, April 15	1. Map diminished triads onto the circle of 5ths (interval calculator)	6
Thursday, April 16	1. Map Augmented triads onto the circle of 5ths (interval calculator) 2. Identify close root position triads on the staff using the interval calculator	9
Friday, April 17	1. Demonstrate understanding of triads by taking a written assessment.	12

Additional Notes: In order to complete the tasks within the following packet, it would be helpful for students to have a piece of manuscript paper to write out triads; I have included a blank sheet of manuscript paper to be printed off as needed, though in the event that this is not feasible students are free to use lined paper to hand draw a music staff.

I have also included answer keys to the exercises at the end of the packet. Parents, please facilitate the proper use of these answer documents (i.e. have students work through the exercises for each day before supplying the answers so that they can self-check for comprehension.)

As always, will be available to provide support via email, and I will be checking my inbox regularly. Please do not hesitate to reach out with questions or concerns during this time. For your reference my email is kevin.austin@greatheartsnorthernnoaks.org

I will also be holding regular office hours from now on via Zoom according to the following schedule:

2 nd Period	Monday, Wednesday; 11:00 – 11:50am
5 th Period	Tuesday, Thursday; 11:00 – 11:50am

These Zoom meetings are optional and will allow for much needed conversations to discuss theory problems and ask questions.

To join the Zoom Meeting:

<https://zoom.us/j/209631093?pwd=Z0MvSU9BNXl0QjRDc1U3U0o5VkJkUT09>

Meeting ID: 209 631 093

Password: 004074

Academic Honesty

I certify that I completed this assignment
independently in accordance with the GHNO
Academy Honor Code.

Student signature:

I certify that my student completed this
assignment independently in accordance with
the GHNO Academy Honor Code.

Parent signature:

Tuesday, April 14

Music Theory Unit: Triads

Lesson 2: Triad Structure and Quality Review/ Major and Minor Triads on the Circle of 5ths

Lesson 2 Socratic Guiding Questions: Keep these questions in mind as you study!

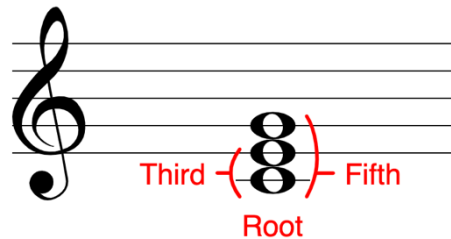
Given that the notes in a chord can be expressed as discrete quantities, how might we relate the structure of a triad to other *quadrivial* arts (e.g. geometry)?

Objective: Be able to do this by the end of this lesson.

1. Review triad structure and quality.
2. Map major and minor triads onto the circle of 5ths (interval calculator)

Introduction to Lesson 2: Review of Triad Structure and Quality

Last week we saw that a *chord* was any combination of three or more notes and that the simplest form of a chord, which contains three notes, is called a *triad*. Using Gioseffo Zarlino's *senaria chord* as a guide we saw that triads (that are consonant) are built from a given pitch, which we called the *root note*, by stacking two 3rds above it to get a "close root position triad."



- The bottom note in this structure is, as we said, the *Root*
- The middle note, which creates an interval of a 3rd above the root, is called the *Third*
- The top note, which is a 3rd above the middle note and which creates a 5th above the root, is called the *Fifth*

From this concept we were also able to discern that depending on the qualities of the internal intervals the overall quality of the chord will become one of four types: Major, minor, Augmented, or diminished. (common abbreviations are given in parentheses)



How can we describe the difference between these chord qualities?

Music – Choir I: Triads

April 13 – April 17

Copy the following definitions into your notes...

A Major Triad: is formed with a Major 3rd above the root and a minor 3rd above the Major 3rd; the outside interval (root note to the top note) is a perfect 5th.

A minor triad: is formed with a minor 3rd above the root and a Major 3rd above the minor 3rd; the outside interval (root note to the top note) is a perfect 5th.

A diminished triad: is formed by stacking two consecutive minor 3rds above the root; the outside interval forms a diminished 5th.

An Augmented Triad: is formed by stacking two consecutive Major 3rds above the root; the outside interval forms an Augmented 5th.

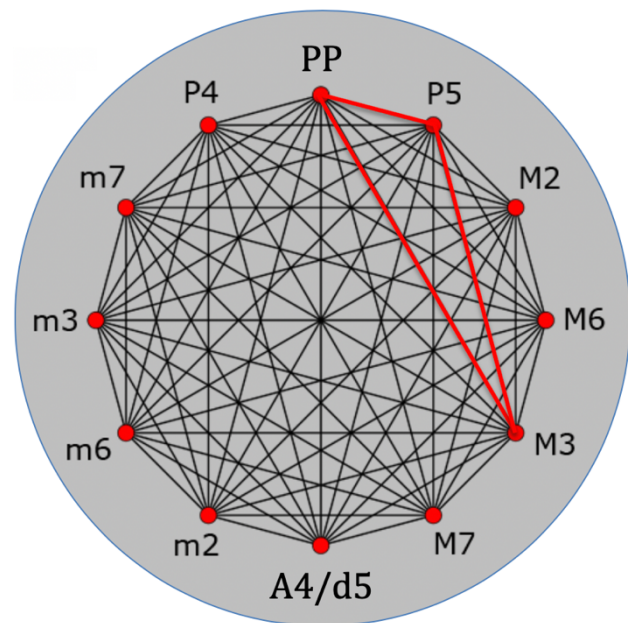
Major/minor Triads and the Circle of 5ths.

Given that triads are made up of combinations of intervals we can approach them using a tool that we already have at our disposal... the interval calculator.

The interval calculator uses the underlying order of the circle of fifths to identify intervals from any given note by a process of rotational symmetry. We can extend this understanding to include triad structures as well. Let's look at our Major Triad first.

We know that the Major Triad contains a root note, and above it, a Major 3rd and a Perfect 5th. So, we can draw this structural relationship on our interval calculator connecting the root (PP) the M3 and the P5.

We can see the resulting triangle emerge. Much like for intervals, where we were able to rotate this relationship around the circle to find (or generate) intervals from a given note (PP), we can also rotate this triangle in a similar way to identify and generate Major triads from any root note (PP).

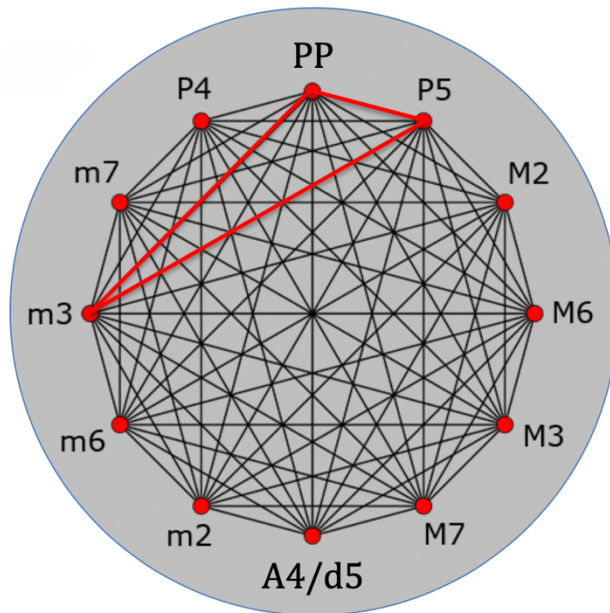


Music – Choir I: Triads

April 13 – April 17

We can also observe a similar phenomenon arise with the minor triad.

We know that the minor triad contains a root note, and above it, a minor 3rd and a Perfect 5th. So, we can draw this structural relationship on our interval calculator connecting the root (PP) the m3 and the P5.

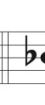
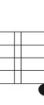
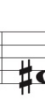


Notice how we also have a triangle that emerges but this time the point of the triangle is facing the other direction, toward the minor side of the circle.

Again this triangular structure can be rotated around the circle to identify or generate any minor triad on a given root (PP)

Closing: Check your understanding of the lesson by using the interval calculator to complete major and minor triads above the given root notes.

Remember to rotate the interval calculator so that prime (PP) aligns with the root note and then follow the triangle that corresponds with the requested quality.

			
G Major	Bb minor	D Major	F# minor

Wednesday, April 15

Music Theory Unit: Triads

Lesson 3: Augmented and diminished Triads on the Circle of 5ths.

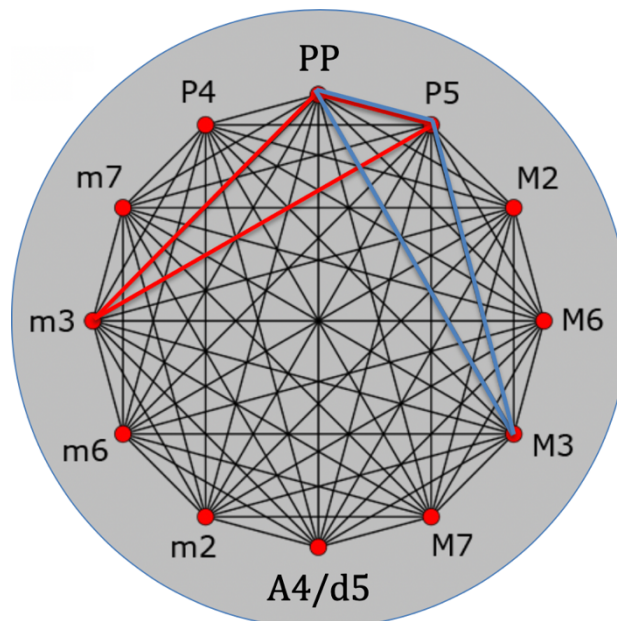
Lesson 3 Socratic Guiding Questions: Keep these questions in mind as you study!
What might we expect to see when we relate diminished triads to the circle of fifths?

Objective: Be able to do this by the end of this lesson.

1. Map diminished triads onto the circle of 5ths (interval calculator)

Introduction to Lesson 3: Triads in Relation to the Circle of Fifths.

Yesterday we examined major and minor triads again, observing their relationship to the circle of fifths. We determined that since a triad has three notes (and thereby three internal intervals) we can “draw” triads on the interval calculator in the form of triangles.



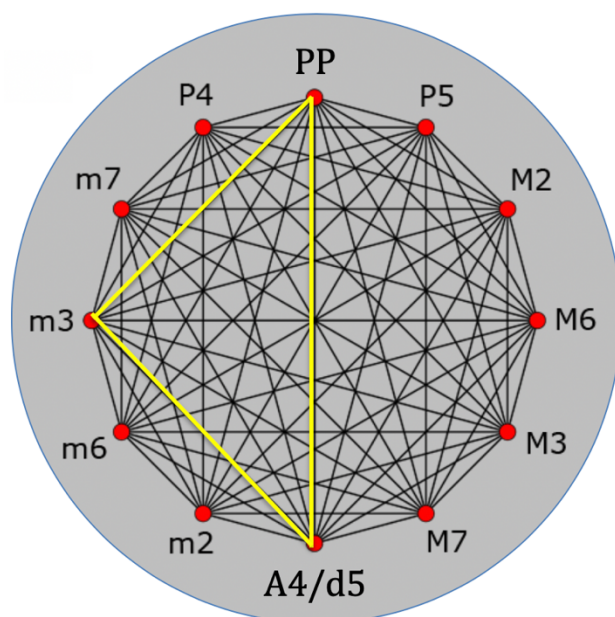
Compare the two triangles for Major (in blue) and minor (in red) triads on the interval calculator. How are they similar or different? Is there any element of geometry that we might use to understand their relationship?

What might we predict about the triangle that arise for augmented and diminished triads?

Diminished Triads on the Circle of Fifths

We can see that the Major and minor triangles are similar triangles; furthermore, they have the same area. This is important to note because when we look at the intervals contained in each of these the outside interval (that is the aural space they occupy) for both the major and minor triad is a perfect 5th. The only thing that changes between them is the quality of the third.

Let's examine what happens when we place a diminished triad on the interval calculator. If we remember, yesterday we said that a *diminished triad* is formed by stacking two consecutive minor 3rds above the root; the outside interval forms a diminished 5th. So, we need to mark these points on the interval calculator (PP, m3, d5) as the points in our triangle.



Notice that when we do this the triangle that arises is rather different than the ones we've already encountered. When we connect these three points, not only do we get a triangle whose base bisects the circle itself, but it also results in an isosceles right triangle.

Much like our previous triangles for major and minor triads, we can also apply the principle of rotational symmetry to this triangle and use it to derive diminished triads on any given root (PP).

Note: The 5th in a diminished triad is a diminished 5th; when we rotate the triangle be careful when selecting the corresponding note. For example: if we selected "F" as our root, the m3 would read "Ab" and the d5 would read "B/Cb." It is important that we select the correct note in this case because "Cb" spells a d5 from "F," while "B" spells an A4.

What does this mean for a diminished triad with a root on Eb? What will we need to do to the note on the interval calculator to make it spell a d5? (Hint: if we can lower a note by a half step [flat] can we lower a note by a whole step?)

Music – Choir I: Triads

April 13 – April 17



Closing: Check your understanding of the lesson by writing diminished triads on the given root notes. Remember to be discerning when spelling the diminished 5th.

A musical staff in treble clef showing four diminished triads. The first triad is F dim (F4, A-flat4, C5). The second is Ab dim (A-flat4, B-flat4, D5). The third is G dim (G4, B-flat4, D5). The fourth is F# dim (F-sharp4, A-flat4, C5).

F dim Ab dim G dim F# dim

What is different about Ab dim? What do we need to do to the fifth that appears in the interval calculator in order for it to spell as a diminished 5th?

Thursday, April 16

Music Theory Unit: Triads

Lesson 4: Augmented Triads on the Circle of 5ths/ Review All Triad Qualities on the Interval Calculator

Lesson 4 Socratic Guiding Questions: Keep these questions in mind as you study!
What might we expect to see when we relate Augmented triads to the circle of fifths?

Objective: Be able to do this by the end of this lesson.

1. Map Augmented triads onto the circle of 5ths (interval calculator)
2. Identify close root position triads on the staff using the interval calculator

Introduction to Lesson 4: Augmented Triads on the Circle of Fifths

As we have seen, all triads, when we map them onto the circle of fifths (interval calculator) the resulting shape is a triangle, and that the triangle changes its configuration based on the quality of the triad; the Augmented triad is no exception.

We know from Tuesday's lesson that an Augmented Triad is formed by stacking two consecutive Major 3rds above the root; the outside interval forms an Augmented 5th. This means that on the interval calculator the points of the triangle should be at PP, M3, and A5...

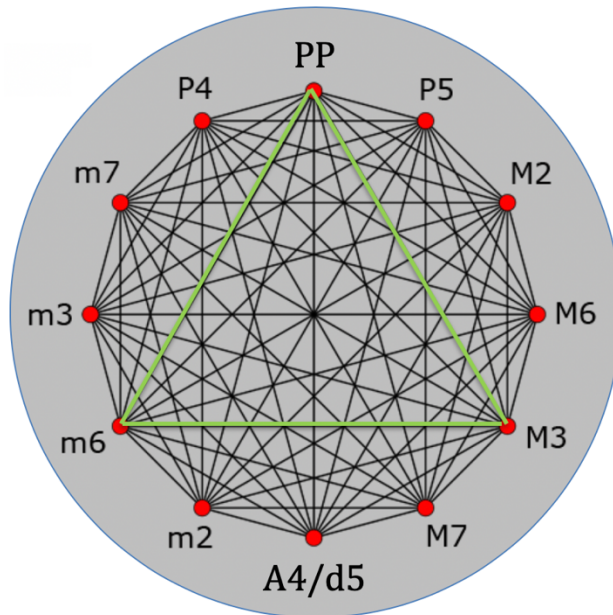
However, when we look at the interval calculator, we see that there is not an Augmented 5th labeled. How are we going to approach this problem? Let's think about it this way...

- We know that the outside interval (from the root to the top note) needs to be an Augmented 5th.
- This interval is Augmented because it is a half-step larger than a Perfect 5th.
- A Perfect 5th is 7 half-steps, so an Augmented 5th must be 8 half-steps.
- Given that the calculator shows mostly *diatonic intervals*, which diatonic interval is also 8 half-steps? _____.

If we go back to our prior discussion on intervals, we should recall that a minor 6th has a specific distance of 8 half-steps. This means that it sounds the same as an Augmented 5th (but is spelled differently). We can use this to our advantage when drawing the triangle on the interval calculator.

How is this problem similar to the way we had to treat the d5 in diminished triads yesterday?
What might this problem mean that we have to do in order to spell an A5 on the calculator?

When we map the augmented triad onto the interval calculator the following triangle emerges...



Notice that this triangle, when we substitute the m6 for the A5, results in an equilateral triangle.

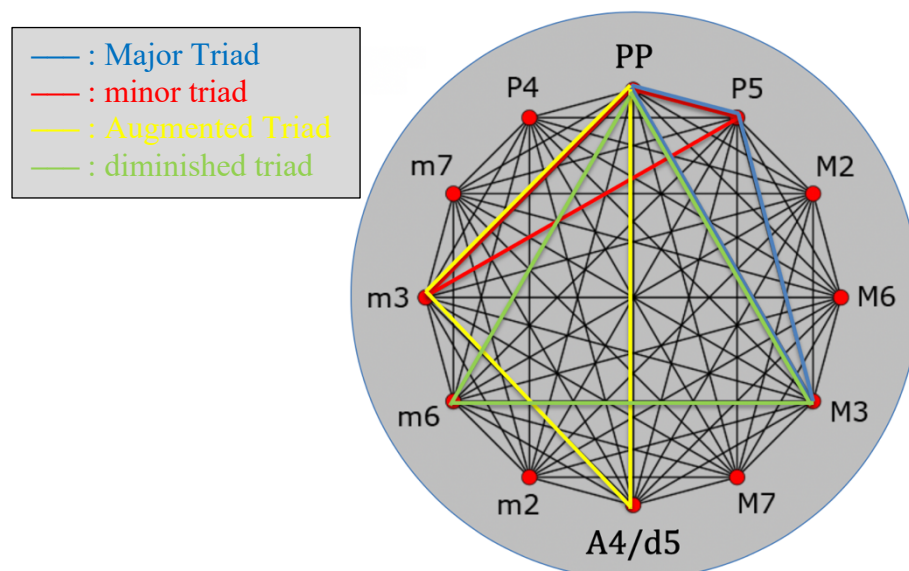
In much the same way as all the triangles that came before we can rotate this one throughout the circle to get Augmented triads on any given root (PP).

However, there is an extra step in that we need to always make sure that the note that results in the “m6” location, instead spells an A5.

Let’s try one just to be certain; for our example we will select “D” as our root.

- On the interval calculator, turn the inside circle so that PP aligns with “D”
- Look then to see what note aligns with M3: **F#**
- When we check further for the note on m6 we get “Bb” however D-Bb spells a minor 6th and we need it to spell a fifth that sounds the same.
- “Bb” sounds the same as “A#” and D-A# is an Augmented 5th, so we will re-spell “Bb” as “A#” so that our overall Augmented triad will be D-F#-A#.

Take a moment now and make sure that we have all of the triangles for major, minor, diminished and augmented triads properly labeled on the interval calculator. It should look something like this...



Music – Choir I: Triads

April 13 – April 17

Closing: Check your understanding of the lesson by spelling and identifying the requested triads.

Spell the requested triad on the given root note.



A musical staff with four measures, each containing a single root note. The notes are: A (treble clef, first line), Gb (bass clef, second line with flat), B (bass clef, second space), and D# (treble clef, third space with sharp). Below each measure is a label: "A Major", "Gb Aug", "B minor", and "D# dim".

A Major Gb Aug B minor D# dim

Identify the following triads. Remember the root note needs to align with PP on the interval calculator.



A musical staff with four measures, each containing a triad. The triads are: 1. Bb major (treble clef, first space, Bb, D, F), 2. C# minor (bass clef, second line, C#, Eb, G), 3. Bb minor (bass clef, second space, Bb, Db, F), and 4. C# major (treble clef, first space, C#, E, G). Below each measure is a numbered blank line for identification: "1. _____", "2. _____", "3. _____", and "4. _____".

1. _____ 2. _____ 3. _____ 4. _____

Friday, April 17

Music Theory Unit: Triads

Quiz: Close Root Position Triad Structures

Objective: Be able to do this by the end of this lesson.

1. Demonstrate understanding of triads by taking a written assessment.

Quiz: Diatonic Intervals

To assess your understanding of this week's lessons you will complete the following quiz on triads. Please allot yourself 20 minutes to take the quiz. You may use the theory reference sheet (which includes a piano keyboard and the circle of fifths), as well as the interval calculator during the quiz for your reference.

Quiz: Triads

**Close Root-Position Triads - **

Indicate the root note and chord quality of each triad using one of the following abbreviations:

Maj (major)

min (minor)

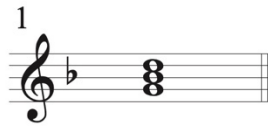
dim (diminished)

Aug (augmented)

Example

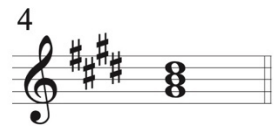


A dim



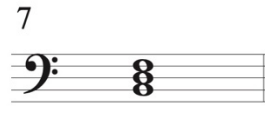






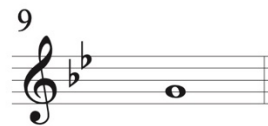








For #9-12, spell the requested triad quality on the given root note.



G min



C# dim



A# Maj

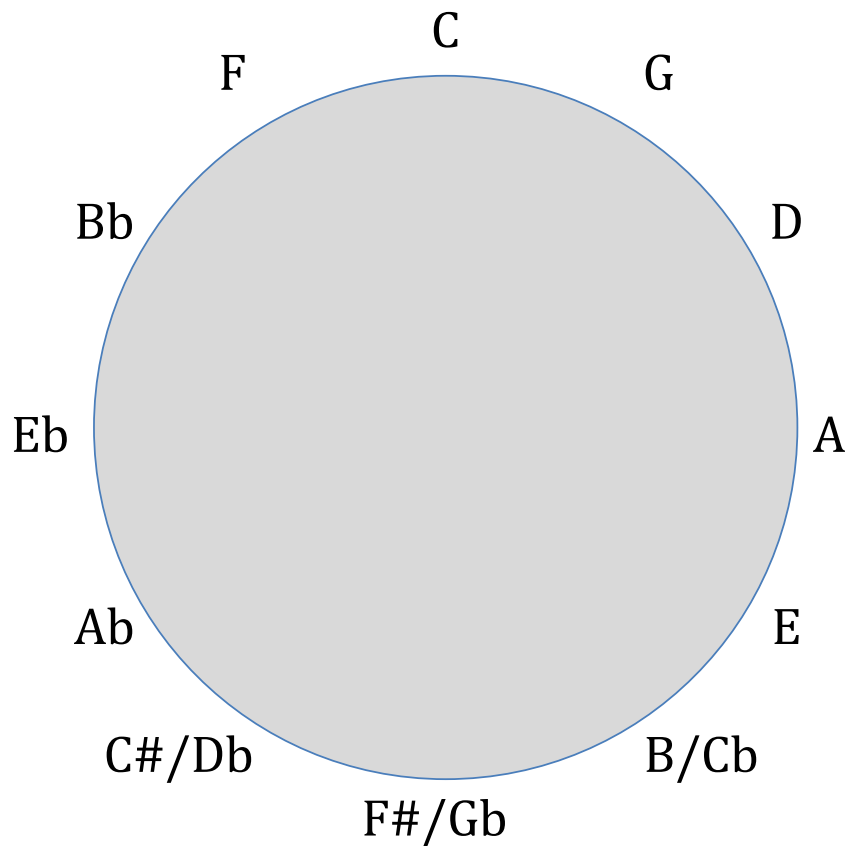
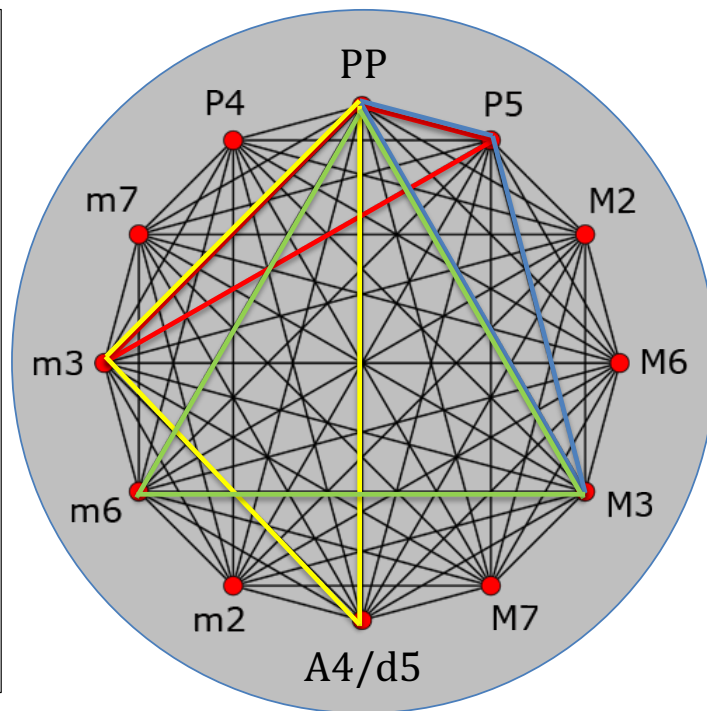


Ab Aug

- Cut along the circumference of the circle to the right, and along the dotted line below.

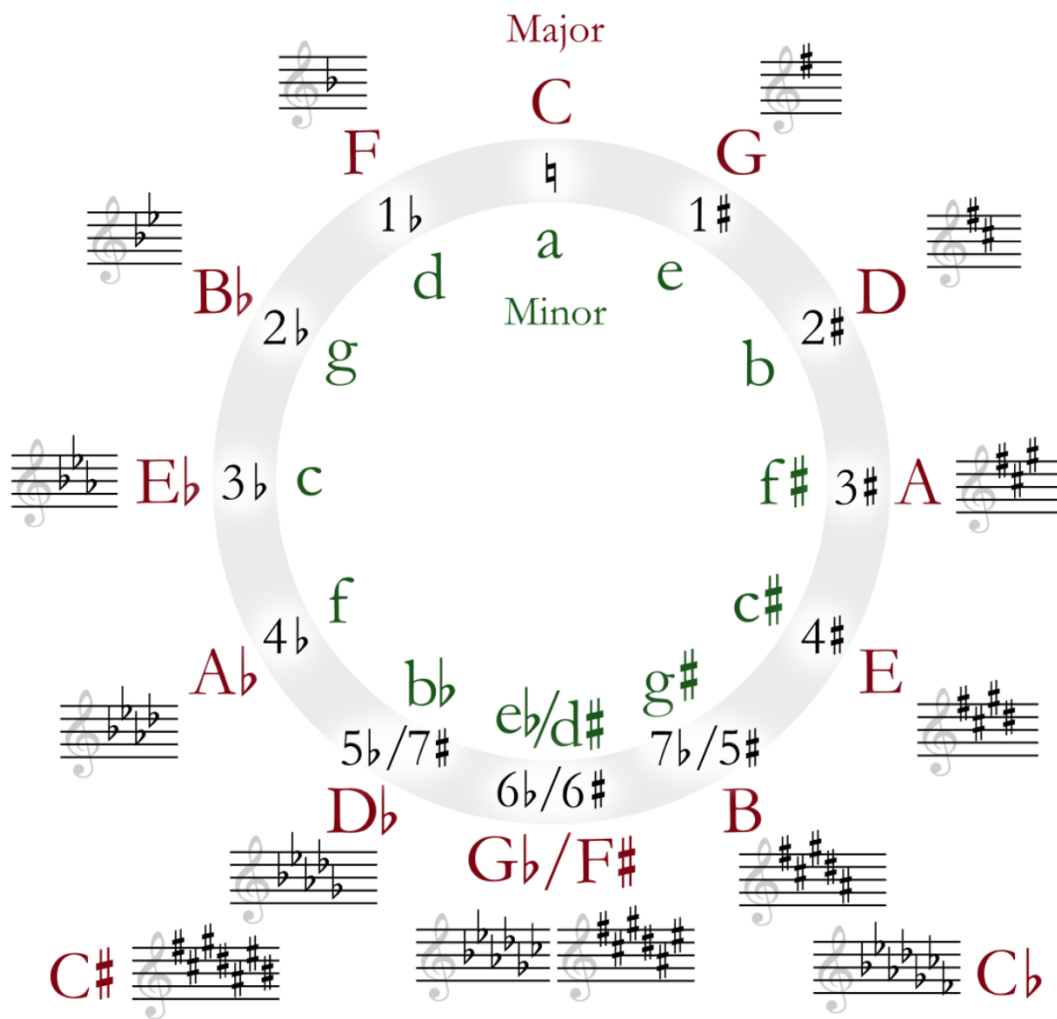
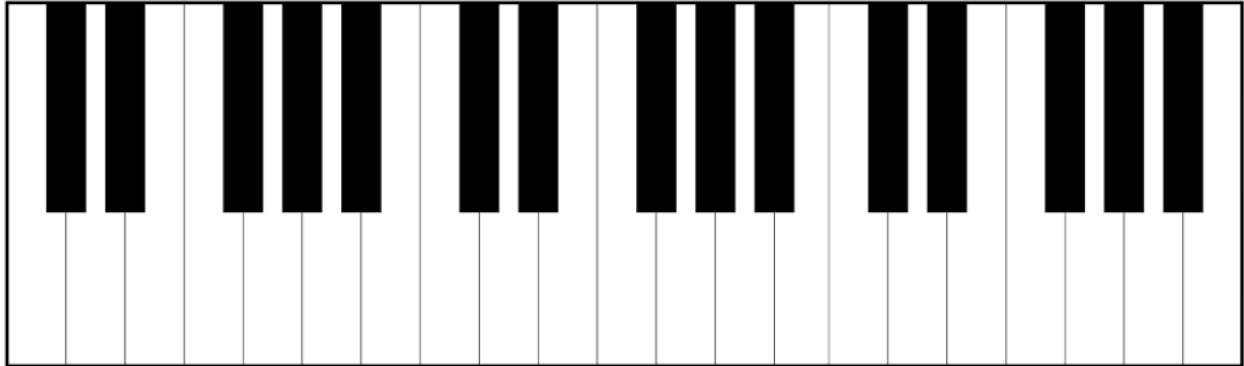
- Lay the interval structure on top of the circle of 5^{ths} at the bottom of the page to form the interval calculator.

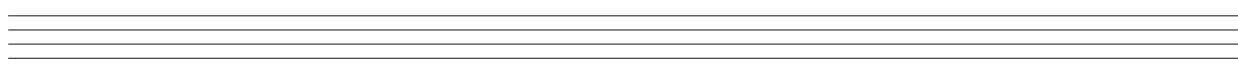
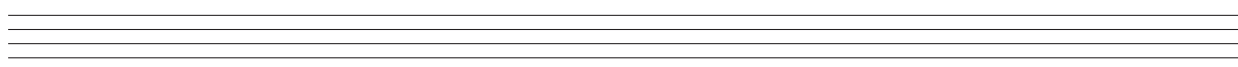
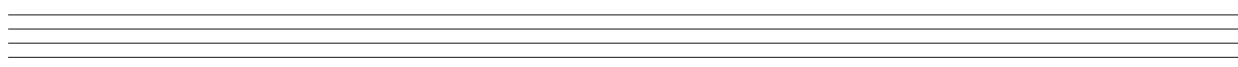
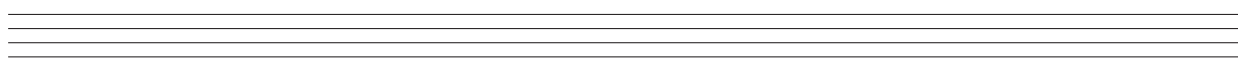
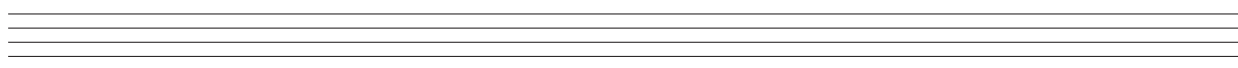
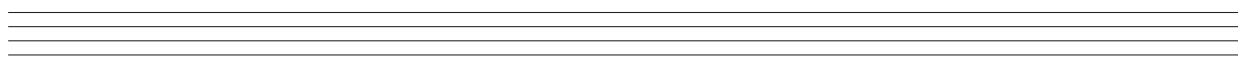
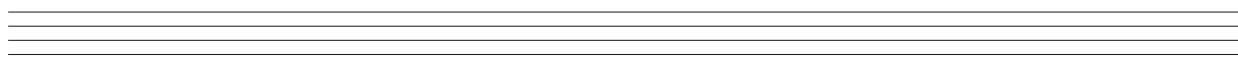
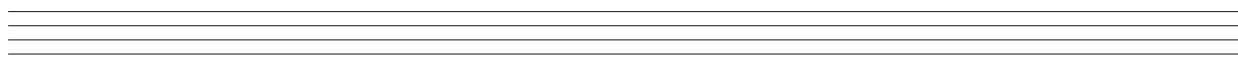
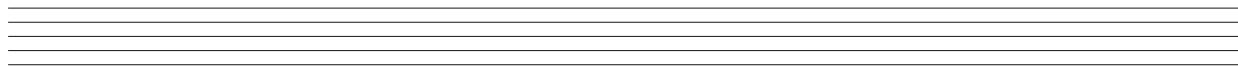
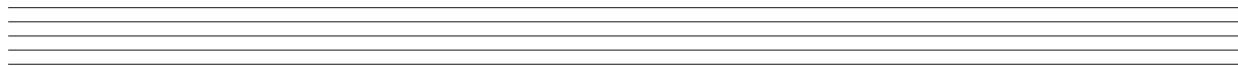
- When calculating intervals make sure to align prime (PP) with the lower note in the interval.



Music Theory Reference Sheet

This sheet may be used as a study aid during the week's lessons





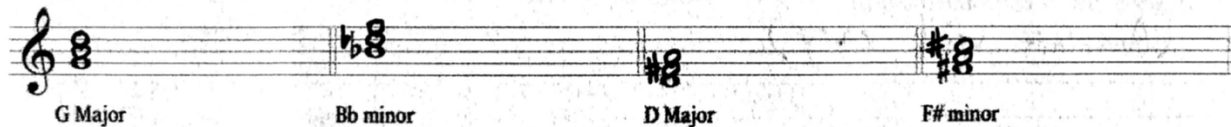
Answer Key

Tuesday, April 14



How can we describe the difference between these chord qualities?

(Answers will vary)



Wednesday, April 15

Compare the two triangles for Major (in blue) and minor (in red) triads on the interval calculator. How are they similar or different? Is there any element of geometry that we might use to understand their relationship?

(Answers will vary)

What might we predict about the triangle that arise for augmented and diminished triads?

(Answers will vary)

What does this mean for a diminished triad with a root on E^b? What will we need to do to the note on the interval calculator to make it spell a d5? (Hint: if we can lower a note by a half step [flat] can we lower a note by a whole step?)

A diminished triad with a root on E^b will show "A" as a d5 from E^b on the calculator. However, in order to spell it as a 5th it needs to be "B" but lowered to sound the same as "A". Thus B^{bb} (B double-flat)

F dim Ab dim G dim F# dim

What is different about Ab dim? What do we need to do to the fifth that appears in the interval calculator in order for it to spell as a diminished 5th?

Ab dim. requires that the 5th be spelled as
E^{bb} (E double-flat)

Thursday, April 16

- Given that the calculator shows mostly *diatonic intervals*, which diatonic interval is also 8 half-steps? m6

How is this problem similar to the way we had to treat the d5 in diminished triads yesterday?

What might this problem mean that we have to do in order to spell an A5 on the calculator?

(Answers will vary)

Spell the requested triad on the given root note.

A Major Gb Aug B minor D# dim

Identify the following triads. Remember the root note needs to align with PP on the interval calculator.

1. G min 2. E maj 3. C dim 4. F Aug