Lesson 37. Major Triads

1 A chord is a set of three or more notes sounded simultaneously. If the notes are played one after the other, it is called an arpeggio.

Triads are three-note chords. They are built upwards in thirds from a fundamental note called a root. The major triad includes the tonic (root), third, and fifth notes of the major scale built on the triad's root.

Each of these notes is described by a number corresponding to the scale degree above the root. These numbers are "functions," as in, "E functions as the third of a C major triad."

Another way to think of triads is in terms of intervals. From the root, the major triad has a major third and a perfect fifth. It can also be seen as a major third (C to E) below a minor third (E to G).
Practice

1. Build a major triad on each of the following notes.

2. Each of these notes is the third of what major triad?

3. Each of these notes is the fifth of what major triad?
Lesson 38. Minor Triads

Minor triads can be formed by lowering the third of a major triad by a half step. From the root, the intervals are a minor third and a perfect fifth, or a minor third below a major third.

Practice

1. Make minor triads out of the following major triads. The first one is done for you.

2. Each of the following notes is the third of what minor triad?
Lesson 39. Augmented Triads

Augmented triads can be formed by raising the fifth of a major triad by a half step. From the root, the intervals are a major third and an augmented fifth, or one major third beneath another.

\[ \text{C Major Triad} \quad \text{C Augmented Triad} \]
\[ \text{D Major Triad} \quad \text{D Augmented Triad} \]
\[ \text{E Major Triad} \quad \text{E Augmented Triad} \]

Practice

1. Make augmented triads out of the following major triads by using the appropriate accidental to raise the fifth by a half step.

\[ \text{Practice 1} \]

2. Each of the following notes is the fifth of what augmented triad?

\[ \text{Practice 2} \]
Lesson 40. Diminished Triads

The diminished triad can be formed by lowering the third and fifth of a major triad by a half step. The intervals are a minor third and a diminished fifth, or one minor third below another.

C Major Triad
\[ \text{C Diminished Triad} \]

E Major Triad
\[ \text{E Diminished Triad} \]

B Major Triad
\[ \text{B Diminished Triad} \]

Practice

1. Make diminished triads out of the following major triads by lowering the third and fifth by a half step. The first one is done for you.

\[ \text{C Major Triad} \]
\[ \text{C Diminished Triad} \]

\[ \text{E Major Triad} \]
\[ \text{E Diminished Triad} \]

\[ \text{B Major Triad} \]
\[ \text{B Diminished Triad} \]

2. Each of the following notes is the fifth of what diminished triad?

\[ \text{C Major Triad} \]
\[ \text{C Diminished Triad} \]

\[ \text{E Major Triad} \]
\[ \text{E Diminished Triad} \]

\[ \text{B Major Triad} \]
\[ \text{B Diminished Triad} \]
Lesson 41. Chord Symbols

Chords are often expressed with **chord symbols**. Chord symbols are usually made up of a letter that indicates the note that the chord is built on, and other symbols that indicate additional notes in the chord. If there is no other symbol, the chord is major. In chord symbols, min is for minor, o is for dim, and + is augmented. (Chord symbols may be written many different ways. For example, C major may also be written as CM or Cmaj, and C minor as C-, Cm, or Cmi.)

\[
\begin{align*}
&\text{C} & \text{Cmin} & \text{C}^\circ & \text{C}^+ \\
&\frac{\text{C}}{4} & \text{Cmin} & \text{C}^\circ & \text{C}^+ \\
\end{align*}
\]

**Practice**

1. Write the following triads. The first one is done for you.

\[
\begin{align*}
&\text{Amin} & \text{Bb}^+ & \text{E} & \text{G}^\circ \\
&\frac{\text{Amin}}{4} & \text{Bb}^+ & \text{E} & \text{G}^\circ \\
\end{align*}
\]

2. Analyze each triad by writing its chord symbol.

\[
\begin{align*}
&\text{E} \\
&\frac{\text{E}}{4} \\
\end{align*}
\]
Exercises, Lessons 37–41. Triads and Chord Symbols

1. Write the following triads.

\[ \text{Db} \quad \text{Emin} \quad \text{F}^+ \quad \text{G}^\flat \]

\[ \text{A} \quad \text{Fmin} \quad \text{B}^\flat \quad \text{B}^\flat \]

2. Analyze each triad with its chord symbol name. Write the chord symbol above the chord.

\[ \text{Db} \quad \text{Emin} \quad \text{F}^+ \quad \text{G}^\flat \]

\[ \text{A} \quad \text{Fmin} \quad \text{B}^\flat \quad \text{B}^\flat \]

Ear Training

5 1. Listen to the major and minor triad. Then, identify each example as either a major or minor triad.
   a. major  minor
   b. major  minor
   c. major  minor
   d. major  minor

6 2. Listen to the minor and diminished triad. Then, identify each example as either a minor or diminished triad.
   a. minor  diminished
   b. minor  diminished
   c. minor  diminished
   d. minor  diminished
7 3. Listen to the major and augmented triad. Then, identify each example as either a major or augmented triad.
   a. major augmented
   b. major augmented
   c. major augmented
d. major augmented

8 4. Listen to each triad. Then, identify each example as a major, minor, diminished, or augmented triad.
   a. major minor diminished augmented
   b. major minor diminished augmented
   c. major minor diminished augmented
d. major minor diminished augmented
e. major minor diminished augmented
f. major minor diminished augmented
g. major minor diminished augmented
h. major minor diminished augmented
Lesson 42. Triad Inversions

9 Triads built upwards in thirds from the root are said to be in root position. The individual notes of a triad can be rearranged (inverted) so that the third or fifth is on the bottom.

<table>
<thead>
<tr>
<th>Root position:</th>
<th>1st inversion:</th>
<th>2nd inversion:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root (1) on bottom</td>
<td>3rd on bottom</td>
<td>5th on bottom</td>
</tr>
</tbody>
</table>

Practise

1. Write the following triads in their first and second inversions.

\[ C\text{min} \quad \text{Bb}\# \quad D^e \]

1st inv. 2nd inv. 1st inv. 2nd inv. 1st inv. 2nd inv.

2. Complete each of the inverted chords on the staff below by building upwards from the given note.

\[ E^b \quad E\text{min} \quad A\# \quad B\text{min} \]

\[ A \quad F\text{min} \quad F^+ \quad C^\flat \]

3. Analyze each chord with chord symbols for each of the inverted triads. The first one is done for you.

\[ F\text{min} \]

\[ F\text{min} \quad G\# \quad A\# \quad B\text{b} \]

\[ F\text{min} \quad G\# \quad A\# \quad B\text{b} \]
Lesson 43. Bass/Chord Theory

10 Complete harmony includes a bass note (bottom note) in addition to the three notes of the triad. It is usually the lowest note of the harmony and is usually the triad’s root. In harmony, a chord is considered to be in root position as long as the root is the bass, regardless of the positioning of the rest of the notes in the chord. The bass is usually notated in bass clef.

Chord

Bass

11 Chord members (excluding the bass) spread out over more than one octave are said to be in open position. Chord members within the same octave are said to be in close position. Again, chords are considered to be in root position as long as the root is in the bass. All of these chords, whether close or open, are in root position.

Practice

1. Complete the harmony by adding the root of each chord in the bass.
2. Rewrite the following close-position chords in open position by reversing the top and bottom notes. Notate all three notes on the treble staff.

\[ F_{\text{min}} \quad G^+ \quad B \quad B^\# \]

3. Rewrite the following open-position chords in close position by reversing the top and bottom notes.

\[ F_{\text{min}} \quad G^+ \quad B \quad B^\# \]

4. Add the bass to complete the harmony of these open-position chords.
Lesson 44. Voice Leading

12 Voice leading refers to the way that individual voices (notes of the chord) move in a series of chords (chord progression). The goal of voice leading is to have each voice move as little as possible in a melodically interesting way from chord to chord. To voice lead a chord progression, first look for the **common tone**—a note found in two successive chords. Keeping common tones in the same voice is referred to as **common-tone voice leading.** Common tones are highlighted here:

![Music notation example](music_notation)

13 Note that different inversions of each chord are used to make this movement smooth, melodic, and linear. The bass plays the root of the chord, and moves independently of the upper voices.

![Music notation example](music_notation)

Starting in root position, the top voice (voice 1) would move as illustrated to the left (below) if the chords were not voice-led, and as illustrated to the right (below) if voice-led.

![Music notation example](music_notation)
Practice

1. Write out the movement of the middle voice (voice 2) from the voice-leading example on page 12, both voice-led and not voice-led.

   \[ \begin{align*}
   &C &F &Bb &C &F &Bb \\
   &\text{Not voice led:} &\text{Voice led:} \\
   \end{align*} \]

2. Write out the movement of the bottom voice (voice 3), both voice-led and not voice-led.

   \[ \begin{align*}
   &C &F &Bb &C &F &Bb \\
   &\text{Not voice led:} &\text{Voice led:} \\
   \end{align*} \]

3. Voice lead the following chords, observing the common-tone principle.

   \[ \begin{align*}
   &F &Dmin &Bb &Gmin &E &C &F \\
   \end{align*} \]
Lesson 45. Open-Position Voice Leading and Chorale Notation

Chords are sometimes notated in chorale notation, which places the two higher voices in the treble clef and the two lower voices in the bass clef. To easily distinguish the voices, the stems of the higher voices in each clef go upward and the stems of the lower voices go downward.

![Chorale Notation Example]

**Practice**

1. Rewrite these chords in chorale notation.

![Regular Notation vs Chorale Notation]

2. Voice leading open-position chords works the same way as close-position: find the common tone, and keep it in the same voice. Voice lead the following open-position chords, observing the common-tone principle. Use chorale notation.

![Voice Leading Example]
Lesson 46. Contrary/Parallel Motion Voice Leading

When successive chords do not have a common tone, such as an F major triad moving to a G major triad, traditional voice-leading technique dictates that chord voices should move in the opposite direction as the bass. This movement is known as **contrary motion**. A more contemporary sound, as found in pop and jazz, is **parallel motion**, in which voices move in the same direction as the bass. Either way, each voice should move to the next closest position.

Practice

1. Move the upper voices as indicated. Each example moves from an F major to a G major triad.

2. Voice lead the following chords. Use the common-tone principle when available, and contrary or parallel as indicated, when not.
3. Voice lead the following chords, first in parallel motion to the bass, then in contrary motion.

\[
\begin{align*}
\text{Parallel} & \quad B^b & Amin & Gmin & F \\
\text{Contrary} & \quad B^b & Amin & Gmin & F
\end{align*}
\]
Exercises, Lessons 42–46. Inversions and Voice Leading

1. Voice lead this progression of triads from the starting position shown. Follow the common-tone principle, but use contrary motion if there is no common tone between chords.

2. Voice lead this progression of triads using chorale notation from the starting position shown. Follow the common-tone principle, but use contrary motion if there is no common tone between chords.

3. Analyze each chord with its chord symbol name.
Ear Training

15  1. Listen to the demonstration triads. Then, identify each example as a major, minor, diminished, or augmented triad.

<table>
<thead>
<tr>
<th>Major</th>
<th>Augmented</th>
<th>Major</th>
<th>Minor</th>
<th>Diminished</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16  2. Listen to the demonstration triads. Then, identify each example as a major, minor, diminished, or augmented triad.

<table>
<thead>
<tr>
<th>Major</th>
<th>Augmented</th>
<th>Major</th>
<th>Minor</th>
<th>Diminished</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. major</td>
<td>minor</td>
<td>diminished</td>
<td>augmented</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson 47. Major 7 Chords

17 Seventh (7) chords are four-part chords built upwards in thirds from a root. The major 7 (Maj7) chord includes the root, third, fifth, and seventh of a major scale. Each note functions as described by its corresponding scale degrees: root, 3, 5, 7.

![CMaj7 chord diagram]

Practice

1. Build a major 7 chord upwards from each given note.

![Chord diagram 1]

2. Analyze each chord with a chord symbol.

![Chord diagram 2]
Lesson 48. Dominant 7 Chords

18 The dominant 7 (7) chord can be formed by lowering the seventh of the major 7 chord by a half step.

\[ \text{CMaj7} \quad \text{C7} \]

Practice

1. Build a dominant 7 chord upwards from each given note.

2. Analyze each chord with a chord symbol. Hint: Some are major 7, some are dominant 7.
Lesson 49. Minor 7 Chords

19 The minor 7 chord (min7) can be formed by lowering the third of the dominant 7 by a half step.

\[ C7 \quad \text{M3} \quad \text{P5} \quad \text{m7} \]
\[ C\text{min7} \quad \text{m3} \quad \text{P5} \quad \text{m7} \]

Practice

1. Build a minor 7 chord upwards from each given note.

\[ \text{C major scale notes} \]

2. Analyze each chord with a chord symbol. Hint: Some are minor 7, some are dominant 7.

\[ \text{Chord symbols for analysis} \]
Lesson 50. Minor 7(b5) Chords

The minor 7(b5) chord (symbol min7(b5)), also known as the half-diminished, can be formed by lowering the fifth of the minor 7 chord by a half step.

### Practice

1. Build a min7(b5) chord upwards from each given note.

2. Analyze each chord with a chord symbol. Some are minor 7, some are min7(b5).
Lesson 51. Diminished 7 Chords

21 The diminished 7 chord (°7) is formed by lowering the seventh of a min7(#5) chord by a half step.

\[
\begin{align*}
\text{Cmin7(#5)} & \quad \text{C7} \\
\end{align*}
\]

Compared to the major 7, the seventh of the diminished 7 chord has been lowered twice, each time by a half step. The enharmonic equivalent is frequently used to avoid the double-flat. For example, the B♭ (double-flat) in the example above may also be expressed as an A, since A is two half steps below B.

\[
\begin{align*}
\text{M7} & \quad \text{m7} \\
\end{align*}
\]

Practice

1. Build diminished 7 (°7) chords upwards from each given note.

\[
\begin{align*}
\end{align*}
\]

(use enharmonic 7th)

2. Analyze each chord with a chord symbol. Some are min7(#5), some are diminished 7.
Exercises, Lessons 47–51. Seventh Chord Types and Symbols

1. Write out each of the following chords from the chord symbols.

\[ \text{E7} \quad \text{C\text{min}7(5)} \quad \text{DMaj7} \quad \text{G\text{min}7} \quad \text{B\text{min}7(5)} \]

\[ \text{A\text{maj}7} \quad \text{E7} \quad \text{A\text{min}7} \quad \text{B\text{b}7} \quad \text{B\text{b}7} \]

2. Analyze each chord with a chord symbol.

\[ \text{E7} \quad \text{C\text{min}7} \quad \text{DMaj7} \quad \text{G\text{min}7} \quad \text{B\text{min}7(5)} \]

Ear Training

22 1. Listen to each demonstration chord. Then, identify each example as either a major 7 or dominant 7 chord.
   a. major 7    dominant 7
   b. major 7    dominant 7
   c. major 7    dominant 7
   d. major 7    dominant 7

23 2. Listen to each demonstration chord. Then, identify each example as either dominant 7 or minor 7.
   a. dominant 7   minor 7
   b. dominant 7   minor 7
   c. dominant 7   minor 7
   d. dominant 7   minor 7
3. Listen to each demonstration chord. Then, identify each example as either minor 7 or min7(b5).
   a. minor 7  min7(b5)
   b. minor 7  min7(b5)
   c. minor 7  min7(b5)
   d. minor 7  min7(b5)

4. Listen to each demonstration chord. Then, identify each example as either min7(b5) or diminished 7.
   a. min7(b5)  diminished 7
   b. min7(b5)  diminished 7
   c. min7(b5)  diminished 7
   d. min7(b5)  diminished 7
Lesson 52. Inversions of Seventh Chords

Like triads, seventh chords can be inverted. There are three inversions possible with seventh chords. The first inversion has the third on the bottom; second inversion has the fifth on the bottom; third inversion has the seventh on the bottom.

Root Position 1st Inversion 2nd Inversion 3rd Inversion

Practice

1. Write the three inversions of the following seventh chords.

B-Maj7  B7  Cmin7  C°7

Dmin7(♭5)  EMaj7  Fmin7  A7

2. Identify each inverted seventh chord with a chord symbol.

Root is a 2nd above 1st, 7th
Lesson 53. Voice Leading Seventh Chords

As with triads, seventh chords can be voice led following the common-tone principle. In these examples, each voice moves smoothly, as the common tone is observed.

Practice

1. Complete the voice leading from the starting position.

2. Complete the voice leading from the starting position.
3. Complete the voice leading from the starting position. Hint: There will be no common tones. Voice lead moving each voice down by half-step motion.
Lesson 54. Contrary and Parallel Voice Leading of Seventh Chords

As with triads, seventh chords with no common tones may be voice led in either contrary or parallel motion.

\[ \text{Contrary Motion} \quad \text{Parallel Motion} \]

Practice

1. Voice lead the following progression using first contrary, then parallel motion.

\[ \text{Contrary} \quad \text{Parallel} \]

2. Voice lead using contrary and parallel motion.

\[ \text{Contrary} \quad \text{Parallel} \]
Lesson 55. Third, Fifth, and Seventh over the Bass

Frequently, seventh chords contain the third, fifth, and seventh in the chord, and the root in the bass, making a total of four voices. This sound is especially common in pop music.

Voice leading the third, fifth, and seventh works the same as voice leading regular triads.
Practice

1. Write the following seventh chords with the third, fifth, and seventh over the root.

\[
\begin{array}{cccc}
A\text{min7} & D\text{Maj7} & C\text{min7} & E7 \\
\end{array}
\]

2. Voice lead the following seventh chords with the third, fifth, and seventh over the root, using the common-tone principle.

\[
\begin{array}{ccccccc}
F\text{Maj7} & D\text{min7} & B\text{Maj7} & G\text{min7} & E\text{Maj7} \\
\end{array}
\]

3. Voice lead the third, fifth, and seventh, using contrary, then parallel motion.

\[
\begin{array}{cccccc}
F\text{Maj7} & G\text{min7} & A\text{min7} & B\text{Maj7} & F\text{Maj7} & G\text{min7} & A\text{min7} & B\text{Maj7} \\
\end{array}
\]
Exercises, Lessons 52–55. Seventh-Chord Inversions and Voice Leading

1. Voice lead this progression of seventh chords using the common-tone principle.

```
Bb Maj7  Gmin7  Cmin7  F7  Bb Maj7  Bb Maj7  Gmin7  Cmin7  F7  Bb Maj7
```

```
AMaj7  F#min7  Bmin7  E7  AMaj7  AMaj7  F#min7  Bmin7  E7  AMaj7
```

2. Voice lead the same progression using the common tone principle with the third, fifth, and seventh over the root in the bass.

```
Bb Maj7  Gmin7  Cmin7  F7  Bb Maj7  AMaj7  F#min7  Bmin7  E7  AMaj7
```

```
```
Ear Training

29 1. Listen to the major 7, dominant 7, and minor 7 chords in root position. Then, identify each example as major 7, dominant 7, or minor 7.

   a. major 7       dominant 7       minor 7
   b. major 7       dominant 7       minor 7
   c. major 7       dominant 7       minor 7
   d. major 7       dominant 7       minor 7
   e. major 7       dominant 7       minor 7
   f. major 7       dominant 7       minor 7
   g. major 7       dominant 7       minor 7
   h. major 7       dominant 7       minor 7