There is no such thing as a diminished unison. Doubly augmented and doubly diminished intervals are possible, but they seldom occur. **Tritone** is a term used for the +4 or its enharmonic equivalent, the °5.

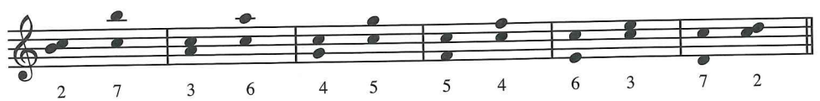
Inversion of Intervals

Descending intervals, especially large ones, are often easier to spell and identify through the use of **interval inversion.** We invert an interval by putting the bottom pitch above the top one or the reverse; for example, the interval D-A inverts to A-D. When we invert an interval, the new numerical name is always different from the old one. The new numerical name can be calculated by subtracting the old numerical name from 9.

Constant value of 9	9	9	9	9	9	9
Minus old numeric name	−2	−3	−4	−5	−6	−7
Equals new numeric name	7	6	5	4	3	2

You can see that an inverted 2nd becomes a 7th, a 3rd becomes a 6th, and so on (Ex. 1-24).

Example 1-24

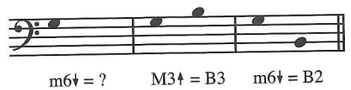


The modifier also changes when an interval is inverted, with the exception of perfect intervals.

Old modifier	m	M	P	+	°
New modifer	M	m	P	°	+

As an example of the usefulness of inversion, suppose you wanted to know what note lies a m6 below G3. Invert the m6 down to a M3 up, as in Example 1-25, transpose the B3 down an 8ve, and you find that the answer is B2.

Example 1-25



Fluency with intervals, as with scales, is necessary for any serious musician and will provide a solid foundation for your further study. As you did with scales, you will benefit from finding out how various intervals sound and feel on a musical instrument.

One exercise you can do (you can think of others) is to write out the notes of the chromatic scale in random order. Include each black key twice—once as a sharped note and once as a flatted note. Then play some interval above and below each note. Work for speed, using your ear to correct yourself.

Consonant and Dissonant Harmonic Intervals

In tonal music, some harmonic intervals are considered to be consonant, whereas others are considered to be dissonant. The terms **consonant** and **dissonant** can be defined roughly as meaning pleasing to the ear and not pleasing to the ear, respectively, but these are very dependent on context. Some of the most exciting moments in tonal music involve dissonance, which is certainly not displeasing in that context, but the dissonances resolve eventually to the consonances that give them meaning. As you can imagine, this is a complex subject, and it is one with which much of this book is concerned.

For now it will suffice to say that major and minor 3rds and 6ths and perfect 5ths and 8ves are consonant. All other harmonic intervals, including all augmented and diminished intervals, are dissonant. An exception is the P4, which is considered dissonant in tonal music only when it occurs above the lowest voice (also called the **bass,** in both vocal and instrumental music).

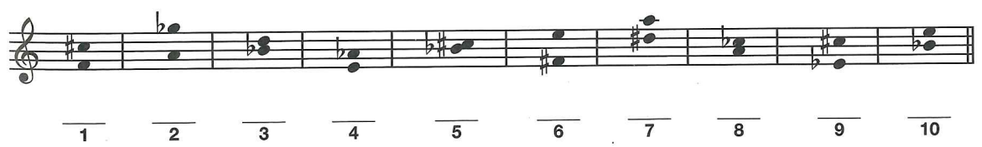
CHECKPOINT

1. What is the term for an interval in which the notes are played in succession instead of simultaneously?
2. Is there such a thing as a m5? A P6?
3. A perfect interval made a half step smaller without changing its numerical name becomes _____.
4. A °5 inverted becomes a _____.
5. Intervals that are relatively displeasing to the ear are classified as _____.

Self-Test 1-6

(Answers begin on page 555.)

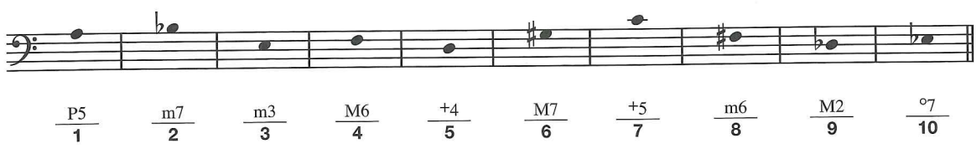
A. Most of the following intervals are either augmented or diminished. Label each interval.



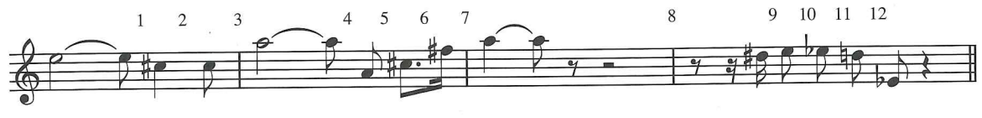
B. Label what each interval becomes when it is inverted.

1. P4 becomes _____
2. M7 becomes _____
3. +2 becomes _____
4. M3 becomes _____
5. °5 becomes _____
6. m2 becomes _____
7. m6 becomes _____
8. +6 becomes _____

C. Notate the specified interval *below* the given note. (You may find it helpful to invert the interval first in some cases.)



D. Label each interval in this melody (from Wagner's *Götterdämmerung*). Interval 8 is from the A5 down to the D♯5.



E. Beneath each of the following harmonic intervals, indicate whether it is consonant ("c"), dissonant ("d"), or dissonant only if the bass has the bottom note of the interval ("d bass").

	1. m7	2. P1	3. P8	4. °7	5. m6
c	_____	_____	_____	_____	_____
d	_____	_____	_____	_____	_____
d bass	_____	_____	_____	_____	_____

	6. M2	7. P5	8. M3	9. +2	10. P4
c	_____	_____	_____	_____	_____
d	_____	_____	_____	_____	_____
d bass	_____	_____	_____	_____	_____

Exercise 1-6 See Workbook.

Summary

Pitch in music refers to the highness or lowness of a sound. Particular pitches are named by using the **musical alphabet,** consisting of the letters A through G, at which point the alphabet starts over. From one letter up or down to its next occurrence is called an **octave,** whereas the space from any C up to the next B is called an **octave register.** Octave registers are numbered, with the lowest C on the **piano keyboard** designated as C1. The C nearest the middle of the piano keyboard is called **middle C,** or C4.

Pitches are notated on the **staff,** an arrangement of five lines and four spaces that can be extended through the use of **ledger lines.** A staff always begins with one of several **clefs,** which determine exactly what pitch is represented by each line or space. A **grand staff** consists of two staves joined by a brace, with a treble clef on the top staff and a bass clef on the bottom.

The **major scale** consists of two identical tetrachords that have a particular arrangement of **whole steps** and **half steps.** Most major scales also have a **parallel minor** scale that begins on the same note but that lowers scale degrees $\hat{3}$, $\hat{6}$, and $\hat{7}$ by a half step. This form of the minor is called the **natural minor scale.** The **harmonic minor scale** lowers only scale degrees $\hat{3}$ and $\hat{6}$ of its parallel major, whereas the **melodic minor scale** lowers scale degree $\hat{3}$ when ascending and scale degrees $\hat{3}$, $\hat{6}$, and $\hat{7}$ when descending.

Every scale has an associated **key signature,** consisting of zero to seven sharps or flats arranged in a particular way on the staff. There are 15 key signatures in all, with one major and one minor scale associated with each. Major and minor keys that share the same key signature are said to be **relative keys,** whereas those that share the same starting note are called **parallel keys.** The notes of a scale are all assigned **scale degree names,** which vary only slightly between major and minor. **Enharmonic** notes or keys sound the same but are spelled differently. To **transpose** music means to play it in another key.

The difference between any two pitches is called an **interval.** A **harmonic interval** separates pitches that are sounded simultaneously, whereas a **melodic interval** separates pitches that are sounded in succession. Intervals are defined by means of a numerical name and a modifier that precedes it. These modifiers include the terms **perfect, major, minor, augmented,** and **diminished.** To **invert** an interval, put the lower note above the upper one (or the reverse). The numerical name and modifier of an inverted interval can be predicted using the method explained in this chapter.

Consonant intervals include major and minor 3rds and 6ths, the P5, and the P8. The P4 is usually consonant, unless it occurs above the lowest voice.

Variations

OLC

For additional review and practice, please see Chapter 1 on our website at **www.mhhe.com/kostka7e.**