

Interval Quality and Quantity

As you know, *Interval* refers to the distance between two pitches, either played simultaneously (harmonic interval) or separately (melodic interval). Intervals are identified and named based on two (2) criteria: **quantity** and **quality**.

- **quantity** is the basic size of the interval, determined by the number of *letter names* the interval encompasses. An interval's quantity is described by an ordinal numeral (e.g. 3rd, 6th), although 8ths are conventionally referred to as 'octaves'.

EX. 1: a. G[#] – B b. G[#] - B[#] c. G[#] - B^b

In Ex. 1, all three intervals given are examples of 3rds, because they each encompass three letter names (G- [A]- B). Accidentals in no way affect the *quantity* of an interval.

- **quality** refers to the way in which intervals with the same quantity differ from one another. In Ex. 1, although all three intervals are 3rds, by measuring the number of half-steps between each note, we find that in absolute terms, the three intervals are in fact different in size. In 1a, B is **3** half-steps above G[#]; in 1b, B[#] is **4** half-steps above G[#]; in 1c, B^b is **2** half-steps above G[#].

There are *five* types of quality used to describe intervals: major, minor, perfect, augmented, and diminished; **however, no one quantity of interval can be described by all five**. 4ths, 5ths, and 8ths (octaves) can **never** be major or minor; 2nds, 3rds, 6ths and 7ths can **never** be perfect (Do not worry about why this is so.) All may be described as diminished or augmented in some contexts (*Intervals in italics are rarely encountered, but are theoretically possible!*):

<u>2nds</u>	<u>3rds</u>	<u>4ths</u>	<u>5ths</u>	<u>6ths</u>	<u>7ths</u>	<u>8ths</u>
Major	Major	Perfect	Perfect	Major	Major	Perfect
Minor	Minor	Augmented	Augmented	Minor	Minor	<i>Augmented</i>
Augmented	<i>Augmented</i>	Diminished	Diminished	<i>Augmented</i>	<i>Augmented</i>	<i>Diminished</i>
<i>Diminished</i>	<i>Diminished</i>			<i>Diminished</i>	Diminished	

- **counting intervals** can be accomplished in several different ways. The simplest way is by counting the number of half-steps between the two notes.

- 1) determine the *quantity*, by counting the number of letter names encompassed (**including** the one you start with). Accidentals are irrelevant at this stage. Thus: A-[B]-[C]-D = 4th
- 2) using the piano keyboard if necessary, count the number of *half-steps* from one pitch to the next (this time **excluding** the pitch you begin with). Thus: (Ab)-A-A[#]-B-C-C[#]-D = 6 half-steps
- 3) Armed with this data, you can now determine the interval's *quality*, to go with its quantity: a 4th which encompasses 6 half-steps is *augmented*.

For all other means of determining intervals, the first step is the same (*Remember:* quantity is always determined by the distance between letter names). A second method involves counting aggregates of whole and half steps. Below is a list of the interval quality, measured by whole and half step (h= 1/2 step, w= whole step) as well as the correlative interval size by half-steps (indicated here by the Semitone Distance column):

<u>Interval</u>	<u>Counting from tonic in Major/minor</u>	<u>Aggregate Distance</u>	<u>Semitone Distance</u>
P1/d2:		0h	0
A1/m2:	h	1h	1
M2/d3:	w	1w	2
A2/m3:	w+h	1w+1h	3
M3/d4:	w+w	2w	4
A3/P4:	w+w+h	2w+1h	5
A4/ d5:	w+w+w (<i>not in Major/minor mode</i>)	3w	6
P5/d6:	w+w+h+w	3w+1h	7
A5/m6:	w+w+h+w+h	4w (or 3w+2h)	8
M6/d7:	w+w+h+w+w	4w+1h	9
A6/m7:	w+w+h+w+w+h	5w (4w+2h)	10
M7/d8:	w+w+h+w+w+w	5w+1h	11
A7/P8:	w+w+h+w+w+w+h	6w (5w+2h)	12