MusicReason RESOURCE

Intervals: Number, Quality, Direction, and Inversion

https://musicreason.com/resources/intervals-number-quality-direction-inversion/ · Last updated 2026-09-06

Naming an interval takes two independent measurements at once: how many letter names it spans (its number) and how many semitones it spans (its quality). Reducing an interval to "four semitones" throws away information a musician actually needs, since four semitones can be a major third or a diminished fourth depending on spelling.

A worked spelling: C up to E-flat

C4 up a minor 3rd is E-flat4: a 3-semitone, 3rd-numbered interval.
A tritone is the interesting edge case: it splits the octave exactly in half, so it can be spelled as an augmented 4th (C to F-sharp, four letter names) or a diminished 5th (C to G-flat, five letter names), both six semitones. Interval Identifier resolves this from the actual spelled input notes rather than guessing from semitone count alone.

Compound intervals repeat the pattern an octave up

A major 9th is a major 2nd plus an octave; a minor 13th is a minor 6th plus an octave.Interval Explorer shows both the compound interval and its simple equivalent side by side, since chord-extension names (like a "9th chord") depend on this exact relationship.

Inversion is a fixed, predictable flip

An interval and its inversion always sum to 9 (number) with major/minor swapped

Interval	Inverts to
Major 3rd	Minor 6th
Perfect 4th	Perfect 5th
Minor 7th	Major 2nd

Interval Inversion Explorer applies this rule mechanically to any interval you give it, which is also the same relationship Melody Imitation Trainer and Pitch Memory Trainer lean on when they vary a melodic prompt's contour.

Hearing an interval is a separate skill from naming one

Knowing the definition of a minor sixth does not automatically mean recognizing one by ear under time pressure. Interval Ear Trainer drills that recognition directly, generating a random interval and scoring your identification against it.

Frequently asked questions

Why are C to D-sharp and C to E-flat not the same interval, even though they sound identical?

Both span the same number of semitones (3), but the interval number counts letter names: C to D is a 2nd, so C to D-sharp is an augmented 2nd; C to E is a 3rd, so C to E-flat is a minor 3rd. Sound is identical, letter-distance is not, and interval names track letter-distance.

Why does the tritone get spelled two different ways?

A tritone splits the octave exactly in half, so it sits equidistant from being read as an augmented 4th (four letter names, C to F-sharp) or a diminished 5th (five letter names, C to G-flat). Both spellings are six semitones; which one is correct depends on the surrounding key and voice leading, not the raw distance.

What does inverting an interval actually do?

Inversion moves the lower note up an octave (or the upper note down one), which always makes the number and 9 sum to the original number, and major becomes minor (and perfect stays perfect). A major 3rd inverts to a minor 6th, for example.

Where this shows up

SCALES KEYS AND INTERVALS
Interval Identifier

SCALES KEYS AND INTERVALS
Interval Explorer

SCALES KEYS AND INTERVALS
Interval Inversion Explorer

EAR TRAINING
Interval Ear Trainer

EAR TRAINING
Melody Imitation Trainer

EAR TRAINING
Pitch Memory Trainer