

Finding the Normal Form of a Pitch-Class Set

1. Excluding doublings, reorder the pitch classes as though they were a scale, ascending within an octave, and rewrite the lowest pitch class an octave higher.
2. Extract the succession of pitch-class intervals, find the largest interval, then starting on the upper note of that largest interval, rewrite the pitch classes ascending within an octave and with no pitch class duplication at the octave. If there is only one occurrence of the largest interval, then this is the normal form for the pitch-class set.
3. If there is more than one occurrence of the largest interval, then rewrite the pitch classes ascending within an octave starting on the upper notes of each iteration of the largest interval (with no pitch class duplication) and compare them: the ordering that has the smallest interval from first to last pitch class is the normal form for the pitch-class set.
4. If there are two or more orderings of the pitch classes that share the same smallest interval from first to last, then compare the interval from first to second-to-last: the ordering that has the smallest interval from first to second-to-last pitch class is the normal form for the pitch-class set.
5. If there are two or more orderings of the pitch classes that share the same smallest interval from first to second-to-last, then compare the interval from first to third-to-last, and so on, until one of the comparisons yields a single smallest interval.
6. If there is never a single smallest interval in any of the comparisons, then the ordering that starts with the smallest pitch-class integer is the normal form for the pitch-class set.

Finding the Prime Form of a Set Class

1. Start with a set in normal form.
2. Extract the succession of intervals.
3. Find the inversion by rewriting the succession of intervals from right to left as a succession from left to right.*
4. If the two interval successions are the same, proceed to Step 5. If they are different, then choose the interval succession that has the smallest interval from first to second-to-last pitch class and proceed to Step 5. If there are two or more orderings of the pitch classes that share the same smallest interval from first to second-to-last, then compare the interval from first to third-to-last, and so on, until one of the comparisons yields a single smallest interval. Choose that one and proceed to Step 5.
5. Rewrite that interval succession starting on pitch-class 0.

*If the largest interval in the succession occurs more than once, you must put the inversion in normal form before comparing it to the original in step 4.