

301 Set Theory Practice Exam

A) Pitch Inversions. Assume $C4=0$

For the following, do one of the following: given two chords, find the pitch inversion that relates them; or, given a chord and a pitch inversion, find the inversion of the chord.

1) 2) 3) Ip27

B) Pitch-Class Inversions. Assume $C=0$

For the following, do one of the following: given two chords, find the pitch-class inversion that relates them; or, given a chord and a pitch-class inversion, find the inversion of the chord (of course, any registral distribution of the correct pitch classes will be considered correct).

4 1) 2) 3) I3

C) Set Class and Interval Vector.

For each of the following pitch class sets, find the set class name (best normal order) and calculate the interval vector. Which sets are Z related?

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D) Invariant Subsets.

For the following pitch-class set, find three pitch-class transformations (inversions or transpositions) that result in invariant subsets of cardinality 3 or higher (trichords or larger). Name the transformation, write the resulting chord, and draw arrows pointing to the invariant pitch classes.

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The musical notation shows a treble clef staff with a key signature of one sharp (F#). The first measure contains the following notes: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), B4 (quarter), A4 (quarter), and G4 (quarter). The second, third, and fourth measures are empty staves.