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## HOMEWORK EXERCISES

Assignment 63—Set Theory 3: Transposition  $(T_n)$  and Inversion  $(T_nI)$ 

Section 1. Transposition (T<sub>n</sub>) of Sets. Transpose the following sets as specified.

- a. Transpose [6, 9, 0] at  $T_3$ : [ , , ]
- b. Transpose [7, 9, 11, 3] at  $T_8$ : [\_\_,\_\_,\_\_]
- c. Transpose [3, 5, 6, 9, 10] at  $T_{10}$ : [\_\_,\_\_,\_\_,\_\_]

Section 2. Inversion (T<sub>n</sub>I)of Sets. Invert the following sets.

- a. Invert [4, 7, 10] at  $T_0I$ : [ , , ]
- b. Invert [0, 1, 6] at T<sub>9</sub>I: [\_\_\_,\_\_,\_\_]
- c. Invert [5, 8, 9, 0] at  $T_5I$ :  $[\_, \_, \_]$

Section. 3 Specify how the first set inverts to the second set.

- a. [4, 5, 8] inverts to [4, 7, 8] at what  $T_nI$ ?
- b. [6, 8, 10, 1] inverts to [5, 8, 10, 0] at what T<sub>n</sub>I? \_\_\_\_
- c. [11, 2, 3, 7] inverts to [2, 6, 7, 10] at what  $T_nI$ ?

Section 4. Transpose and invert the following five-note set (Eb, G, A, B, D) to T<sub>2</sub>, T<sub>4</sub>, T<sub>2</sub>I, and T<sub>4</sub>I. After mapping multiple versions of these five transpositions and inversions of the set onto the given five motives, provide at least 10 motivic statements, some possibly combined in two-part counterpoint. Minimum length: four measures in 4/4. Notate this short composition in a music notation program, submit a printout, and send an electronic version.

(Eb, G, A, B, D) at  $T_2 =$  \_\_\_\_\_ at  $T_4 =$  \_\_\_\_ at  $T_2I =$  \_\_\_\_ at  $T_4I =$  \_\_\_\_

