WS 48: Brain Teasers III

NAME ________________________

A. Overtone Series

1. __1st, 2nd, 4th, 8th, 16th__ Identify each of the five partials of any overtone series (through the 16th partial only) that are members of the same pitch class as the fundamental. (Indicate the number of each partial.)

2. __2:1 : P8__ What is the ratio between the 1st overtone and the fundamental of any overtone series? To which interval does it correspond?

3. __4:3 : P4__ What is the ratio between the third overtone and the third partial? To which interval does it correspond?

4. __3:2 : P5__ What is the ratio between the 12th and 8th partials? To which interval does it correspond?

5. __3rd__ The fifth partial of F is the same pitch as what overtone of A?

6. __F__ The second overtone of BB♭ is the same pitch as the second partial of what fundamental?

7. __D__ The sixth partial of GG is the same pitch as the third overtone of what fundamental?

8. __6th__ The fourth overtone of C is the same pitch as what partial of AA?

B. Transposing Instruments

1. __F♭__ A Trumpet in B♭ is reading an A♭, a Clarinet in A is reading a D, and a Horn in F is reading a B♭. In what (major) key are they playing?

2. __IV__ A Soprano sax in B♭, an Alto flute in G, and an Alto clarinet in E♭ are each reading a B. Together they are playing what chord in A major? (Provide the appropriate Roman numeral.)

3. __D E A F__ What word would be spelled by the tones sounded by the following instruments, respectively: Alto sax in E reading a B, Trumpet in B♭ reading an F, Horn in F reading an E, Clarinet in A reading an A♭?

4. __F A D E__ What word would be spelled by the notes read by the following instruments, respectively: English Horn in F sounding a B♭, Tenor Sax in B♭ sounding a G, Clarinet in A sounding a B, and Alto Sax in E♭ sounding a G.