

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 \flat 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 \sharp A Trumpet in B \flat is reading an A \sharp , a Clarinet in A is reading a D, and a Horn in F is reading a B \sharp . In what (major) key are they playing?
2. IV A Soprano sax in B \flat , an Alto flute in G, and an Alto clarinet in E \flat are each reading a B. Together they are playing what chord in A major? (Provide the appropriate Roman numeral.)
3. DEAF What word would be spelled by the tones *sounded* by the following instruments, respectively: Alto sax in E \flat reading a B, Trumpet in B \flat reading an F \sharp , Horn in F reading an E, Clarinet in A reading an A \flat ?
4. FADE What word would be spelled by the notes *read* by the following instruments, respectively: English Horn in F sounding a B \flat , Tenor Sax in B \flat sounding a G, Clarinet in A sounding a B, and Alto Sax in E \flat sounding a G.