

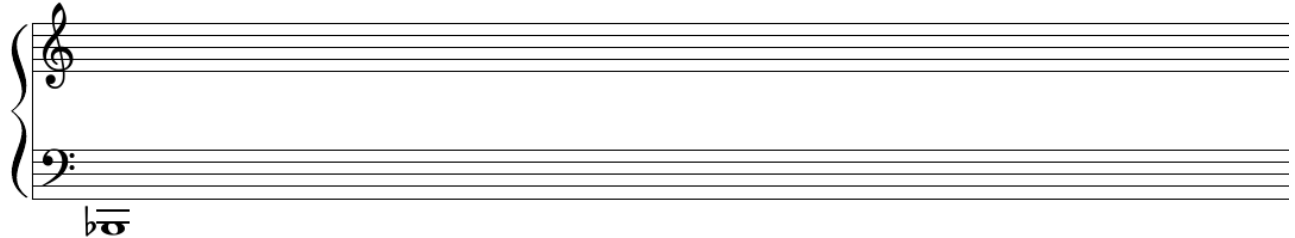
MUSIC 201

Assignment 2

Name: _____

Due September 9

1. Show the first 15 overtones of the sound bellow.



Mark the Equal Temperament sounds that differ the most from the natural resonance series.

30 points

2. List all the ratios defining

◦ minor thirds in the overtone series within four octaves ?

◦ perfect fourths within four octaves ?

10 points

3. A2, the second lowest A sound on piano, has the frequency of 55 Hertz or cycles/second.

Compute the frequencies of its first 15 overtones of this sound

| | | | | | |
|--------|-----|-----|------|------|------|
| 1 = 55 | 4 = | 7 = | 10 = | 13 = | 16 = |
| 2 = | 5 = | 8 = | 11 = | 14 = | |
| 3 = | 6 = | 9 = | 12 = | 15 = | |

30 points

6. For each of the following sounds which is the pitch corresponding to the ratio indicated:

| | | | |
|---------|--------------|--------|---------|
| F2 = 1 | ratio 10 / 1 | pitch: | octave: |
| D3 = 1 | ratio 7 / 1 | pitch: | octave: |
| G2 = 1 | ratio 13 / 1 | pitch: | octave: |
| Eb3 = 1 | ratio 9 / 1 | pitch: | octave: |
| B2 = 1 | ratio 11 / 1 | pitch: | octave: |

30 points