

Assignment 3
Due Tuesday, September 17, 2013

1. On page 44 of Rigden do exercises (12): A trombone plays a note with a sound-intensity level of 85 db. If two more trombones join the first instrument and each plays with the a SL of 85 db, what is SL of all three trombones.
2. Read over carefully the explanation of amplitude given in exercise (13) on page 44.
3. On page 56 of Rigden do the following exercises: (3) What is the loudness level of a 1000 Hz tone whose SL = 60db? (4) What is the loudness level of a 7000 Hz tone whose SL = 60 db? (5) What is the loudness level of a 100 Hz tone whose SL = 100 db? (6) One flute is playing a tone of frequency 300 Hz with a SL of 40 db. (a) What is the LL? (b) if three more flutes join the first one and play the same note, each flute contributing an SL of 40 db, what will be the LL of the combination? (7) What is the loudness in sones of a tone whose LL is 60 phons? (8) The LL of a 1000 Hz tone is 80 phons at a distance of 3 m from the source. Assuming the validity of the inverse-square law, what would be the LL at a distance of 6 m from the source?