

EAS 4801: Planetary Sounds

Quiz 1 (1 pts each, 5 pts total; 01/17/2020)

Name: **ANSWER KEY**

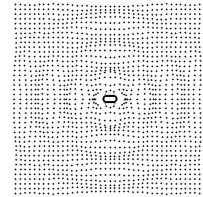
Student ID:

1: The sound speed in fresh water is about?

- a) 340 m/s
- b) 1.5 km/s**
- c) 3 km/s
- d) 6 km/s

2: Two waves are traveling through the same container of nitrogen gas. Wave A has a wavelength of 1.5 m. Wave B has a wavelength of 4.5 m. The speed of wave B must be _____ the speed of wave A?

- a) one-ninth
- b) one-third
- c) the same as**
- d) three times larger than



3: Doubling the frequency of a wave source doubles the speed of the waves

- a) True
- b) False**

4: If a sound wave has a frequency of 500 Hz, how many cycles can it oscillate for one kilometer distance (if needed, you can use the sound wave speed in dry air of 343 m/s)?

- a) 2
- b) 343
- c) 500
- d) 1458 (not 686)**

5: If the intensity I of a sound wave exceed the reference intensity I_0 by a factor of 1000, the intensity level β of that sound wave is (if need, use the intensity level equation $\beta = 10 \text{ dB} \log_{10} (I/I_0)$)?

- a) 1
- b) 3
- c) 30**
- d) 1000