Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per. \_\_\_\_\_\_\_\_\_

Wave Characteristics Review Worksheet

1. What are the two factors that affect the period of a pendulum?
2. What are the two factors that affect the period of a mass on a spring?
3. Suppose a pendulum has a period of 1.5 seconds. Is this pendulum longer or shorter length than a pendulum with a 1 second period?
4. Draw a wave and label the different parts of a wave: amplitude, crest, trough, and wavelength.
5. How are period and frequency related?
6. If the period is 10 seconds what is the frequency?
7. If the frequency is 100 hz what is the period?
8. What is the difference between compressional and transverse waves? Give an example of each.
9. If a sound wave travelled with a speed of 350 m/sec and had a frequency of 450 hz what would be the wavelength?
10. What is wave reflection? Give an example of wave reflection in sound and light.
11. What is wave refraction? Give an example.
12. What is wave diffraction? Give and example.
13. If purple light has a higher frequency than red light how do the wavelengths of red and purple light compare?
14. What is a mechanical wave? Give an example of a mechanical wave?
15. What is a non mechanical wave? Give an example of a non mechanical wave.
16. A nurse counts 76 heartbeats in one minute(60 sec). What are the period and frequency of the heart’s oscillation?
17. Find the wavespeed for each of these situations:

|  |  |  |  |
| --- | --- | --- | --- |
| **Medium** | **Wavelength** | **Frequency** | **Speed** |
| Zinc,  1-in. dia. coils | 1.75 m | 2.0 Hz | \_\_\_\_\_\_ |
| Zinc,  1-in. dia. coils | 0.90 m | 3.9 Hz | \_\_\_\_\_\_ |
| Copper,  1-in. dia. coils | 1.19 m | 2.1 Hz | \_\_\_\_\_\_ |
| Copper,  1-in. dia. coils | 0.60 m | 4.2 Hz | \_\_\_\_\_\_ |
| Zinc,  3-in. dia. coils | 0.95 m | 2.2 Hz | \_\_\_\_\_\_ |
| Zinc,  3-in. dia. coils | 1.82 m | 1.2 Hz | \_\_\_\_\_\_ |

1. If the speed of sound in air is 331 m/sec what is the wavelength and period of each of these frequencies?
   1. 230 hz
   2. 500 hz
   3. 800 hz
   4. 10,000 hz