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| **Physics 20 - Lesson 29**  **Waves in One-Dimension – Answer Key**  / 97 | | | | | | |
| 1)  /4 |  | | | | | a) |
| b) |
| c) |
| d) |
| 2)  /8 |  | | | | |  |
| 3)  /1 | A wave is a form of energy that moves through a medium by vibratory motion of the particles of the medium. | | | | | |
| 4)  /2 | Crest    Trough Equilibrium | | | | | |
| 5)  /2 | 2.5cm | | | | | |
| 6)  /1 | Wave energy is converted into heat energy. | | | | | |
| 7)  /2 | Compression Rarefaction | | | | | |
| 8)  /4 |  | | | | | |
| 9)  /1  /1 | a) Transverse Pulse  Crest    b) Longitudinal Pulse  Compression | | | | | |
| 10)  /7 | **\_\_f\_\_** Period a. the motion of a pendulum  **\_\_c\_\_** Frequency b. an S shape on its side  **\_\_g\_\_** Amplitude c. number of vibrations per second  **\_\_e\_\_** Displacement d. the completion of one cycle  **\_\_b\_\_** Sine Curve e. the location of an object  **\_\_d\_\_** Vibration f. time to complete one vibration  **\_\_a\_\_** Simple Harmonic Motion g. position of maximum displacement | | | | | |
| 11)  /6 | 1. Equilibrium**: 26cm** 2. Amplitude: **6.0cm** 3. Displacement:   20cm: **+6cm**  24cm: **+2.0cm**  26cm: **0.0cm**  30cm: –**4.0cm** | | | | | |
| 12)  /4 |  | |  | | | |
| 13)  /4 | 7.5cm  3 8 | | | |  | |
| 14)  /2 |  | | | |  | |
| 15)  /2 |  | | | |  | |
| /2 | a) | | | |  | |
| /6 | b)  i)  ii)  iii) |  | | | | |
| 16)  /3 | **Speed** and **wavelength** are determined by properties of the medium, while **frequency** is determined by the source of the wave | | | | | |
| 17)  /4 | a)  b) No, the speed remains constant, but the wavelength will become ½  c) Wavelength becomes 10.0cm | | | | | |
| 18)  /4 |  | | | | | |
| 19)  /2 | Frequency decreases by a factor of 16 | | | | | |
| 20)  /1 | Decrease.  Decreased frequency Increased wavelength | | | | | |
| 21)  /4 |  | | |  | | |
| 22)  /4 |  | | |  | | |
| 23)  /4 | Deep | | | Shallow | | |
| 24)  /6 | A)  Incident  Transmitted  Reflected  B) Incident  Transmitted  Reflected | | | | | |
| 25)  /6 |  | | | | | |